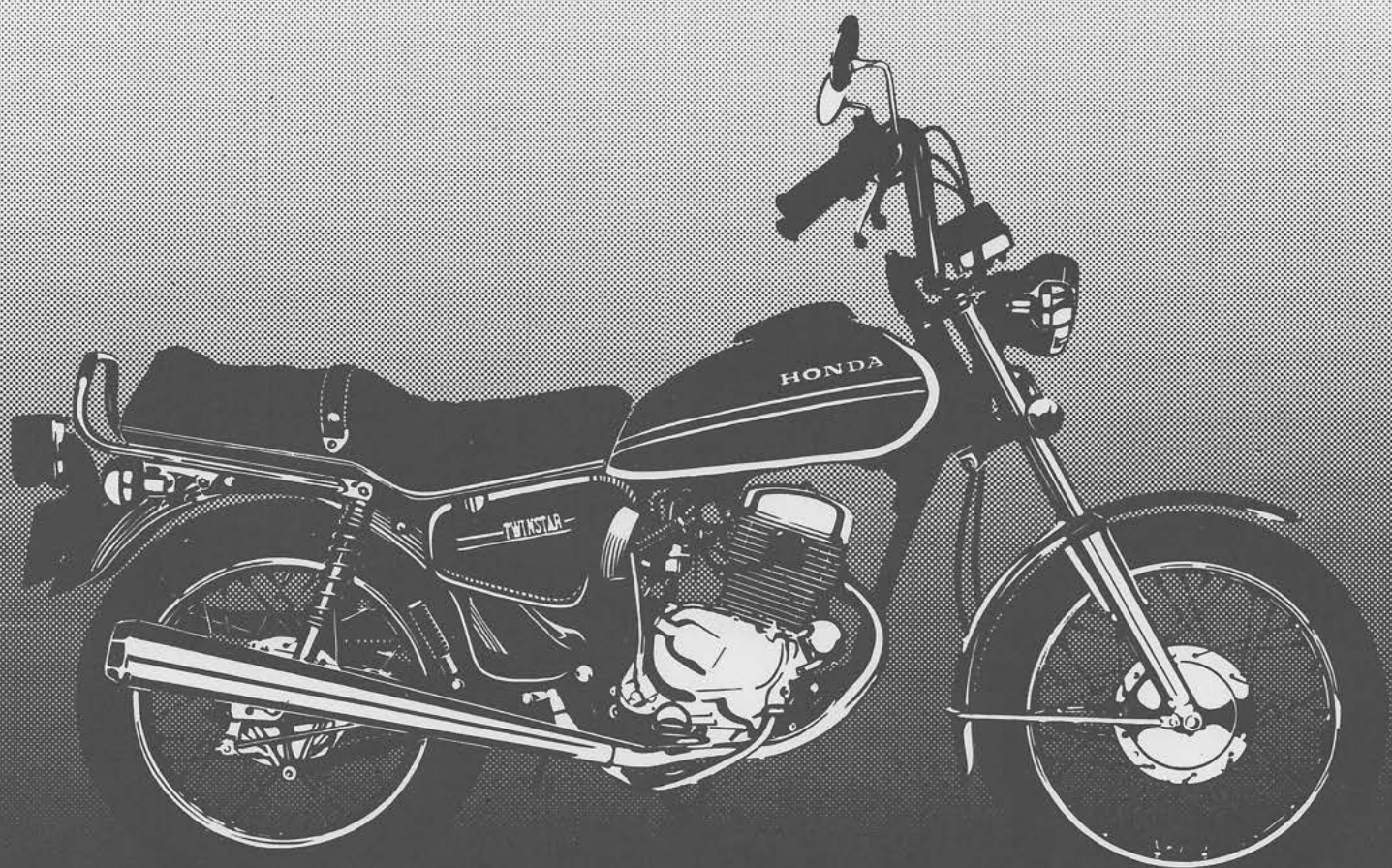


Official

HONDA

SHOP MANUAL

TWINSTAR CM185T·CM200T CM250C



CM185T '78 — '79
CM200T '80 — '82
CM250C '82 — '83

IMPORTANT SAFETY NOTICE

 WARNING

Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

CAUTION

Indicates a possibility of personal injury or equipment damage if instructions are not followed.

NOTE

Gives helpful information.

Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. It is important to note that this manual contains some warnings and cautions against some specific service methods which could cause **PERSONAL INJURY** to service personnel or could damage a vehicle or render it unsafe. Please understand that those warnings could not cover all conceivable ways in which service whether or not recommended by Honda might be done or of the possible hazardous consequences of each conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized by the service method or tools selected.



HONDA CM185T/200T/250C

HOW TO USE THIS MANUAL

This shop manual covers emission controlled motorcycles built after December 31, 1977. Some procedures may not apply to earlier units (USA only).

Follow the applicable Maintenance Schedule Recommendations for each year's model to ensure that the vehicle is always in peak operating condition and the emission levels are within the standards set by the U.S. Environmental Protection Agency (USA only). Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Sections 1 through 3 apply to the whole motorcycle, while 4 through 18 describe parts of the motorcycle, grouped according to location.

Find the section you want on this page, then turn to the table of contents on page 1 of that section.

Most sections start with an assembly or system illustration and all the required specifications, torque values, working practices, tools and troubleshooting for the section. The subsequent pages give detailed procedures for the section.

If you don't know the source of the trouble, go to section 18, TROUBLESHOOTING.

Addendums for 1979 and later model years' service information begin with section 19.

ALL INFORMATION, ILLUSTRATIONS, DIRECTIONS AND SPECIFICATIONS INCLUDED IN THIS PUBLICATION ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF APPROVAL FOR PRINTING. HONDA MOTOR CO., LTD. RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLIGATION WHATEVER. NO PART OF THIS PUBLICATION MAY BE REPRODUCED WITHOUT WRITTEN PERMISSION.

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SERVICE PUBLICATIONS OFFICE

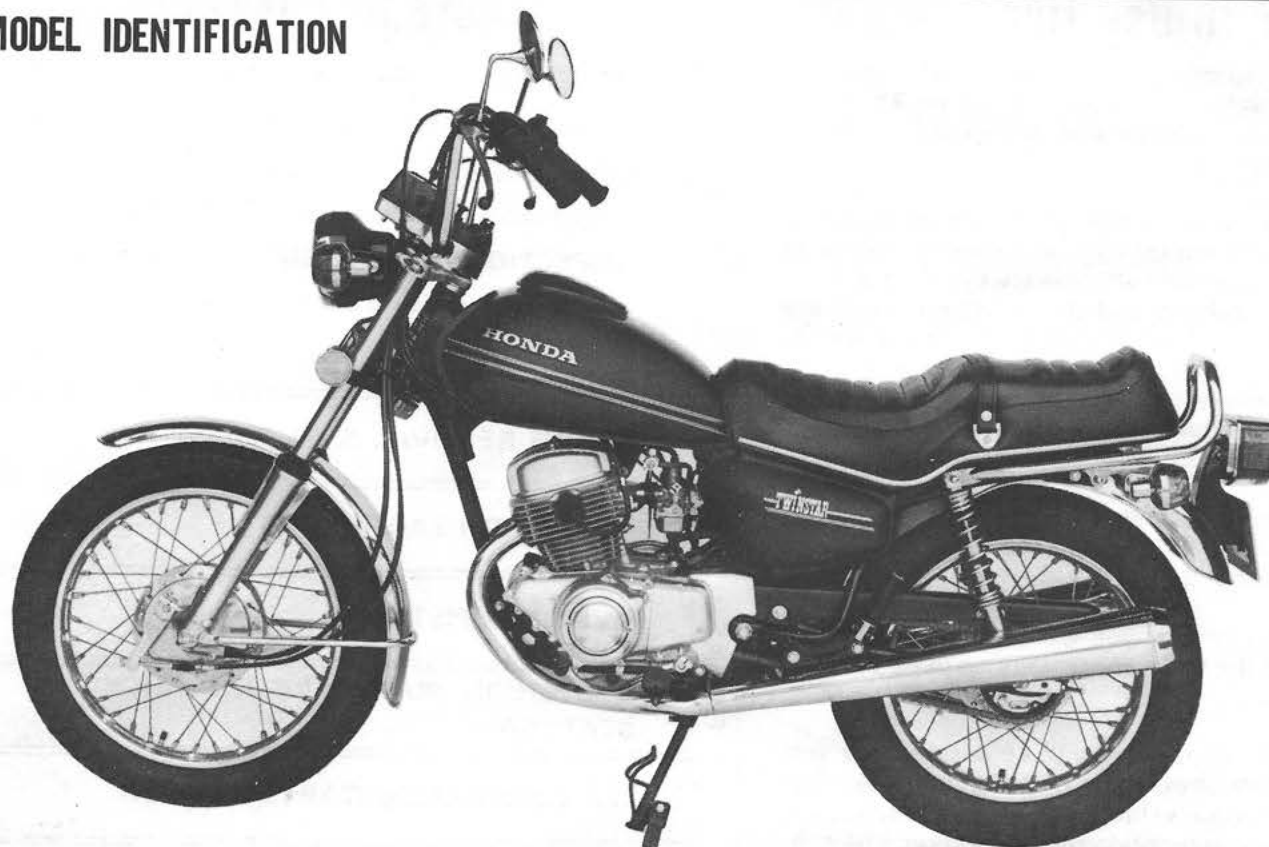
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HONDA
CM 185/200T

MODEL IDENTIFICATION



CM185 BEGINNING F / No. 2000014



CM200T BEGINNING F / No. MC01-2000028



HONDA
CM185T

MODEL IDENTIFICATION



CM250C BEGINNING F/No. MC060 * CK000066



HONDA
CM185T

CM185T BEGINNING WITH F/N 2000014

The frame serial number is on the right side of the steering head.



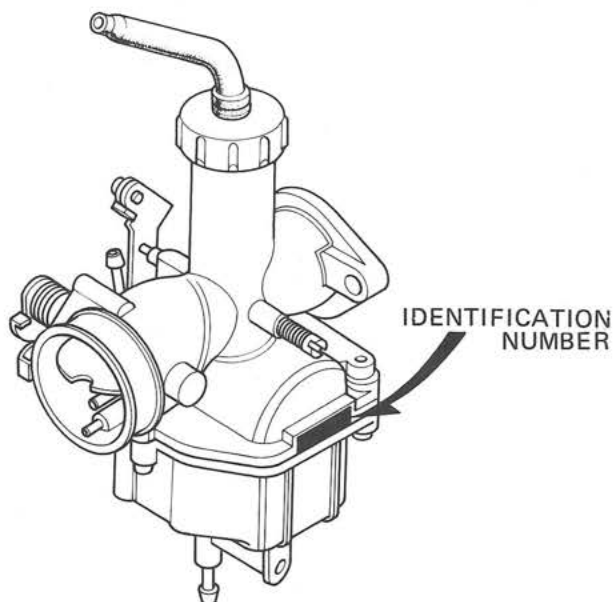
The legal vehicle identification number (VIN) is on the left side of the steering head.



The engine serial number is on the lower left side of the crankcase.



The carburetor identification number is on the right side of the carburetor body.





HONDA
CM185T

1. GENERAL INFORMATION

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GENERAL SAFETY

WARNING

If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas.

WARNING

The battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and call a doctor if your eyes were exposed.

WARNING

Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.

WARNING

The battery generates hydrogen gas which can be highly explosive. Do not smoke or allow flames or sparks near the battery, especially while charging it.

SERVICE RULES

1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalent. Parts that don't meet HONDA's design specifications may damage the motorcycle.
2. Use the special tools designed for this product.
3. Install new gaskets, O-rings, cotter pins, lock plates, etc. when reassembling.
4. When torquing bolts or nuts, begin with larger-diameter or inner bolt first, and tighten to the specified torque diagonally, unless a particular sequence is specified.
5. Clean parts in non-flammable or high flash point solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
6. After reassembly, check all parts for proper installation and operation.
7. Use only metric tools when servicing this motorcycle. Metric bolts, nuts, and screws are not interchangeable with English fasteners. The use of incorrect tools and fasteners may damage the motorcycle.


SPECIFICATIONS

[] : Canadian type

ITEM		
DIMENSIONS	Overall length	1,960 mm (77.2 in.)
	Overall width	830 mm (32.7 in.)
	Overall height	1,130 mm (44.5 in.)
	Wheelbase	1,280 mm (50.4 in.)
	Seat height	730 mm (28.7 in.)
	Ground clearance	180 mm (7.1 in.)
	Dry weight	124 kg (273 lbs.)
FRAME	Type	Diamond
	F. suspension, travel	Telescopic fork 115 mm (4.53 in.)
	R. suspension, travel	Swing arm 64 mm (2.53 in.)
	F. tire size, pressure	3.00-17 (4PR) 1.75 kg/cm ² (25 psi)
	R. tire size, pressure	3.50-16 (4PR) 2.25 kg/cm ² (32 psi)
	F. brake, lining swept area	Internal expanding shoes, 110 cm ² (17.05 sq. in.)
	R. brake, lining swept area	Internal expanding shoes, 123 cm ² (19.07 sq. in.)
	Fuel capacity	10.5 liters (2.8 U.S. gal.)
	Fuel reserve capacity	3.0 liters (0.8 U.S. gal.)
	Caster angle	62°
	Trail	92 mm (3.6 in.)
ENGINE	Front fork oil capacity	125 cc (4.2 oz), 98 cc (3.3 oz) at draining
	Type	Air cooled 4-stroke
	Cylinder arrangement	Parallel twin 20° inclined from vertical
	Bore and stroke	53 x 41 mm (2.09 x 1.61 in.)
	Displacement	181 cc (11.03 cu. in.)
	Compression ratio	9.0 : 1
	Valve train	Chain drive overhead camshaft
	Maximum horsepower	15.0 BHP/9,500 rpm
	Maximum torque	1.28 kg-m (9.26 ft-lb.)/7,000 rpm
	Oil capacity	1.5 liters (1.6 U.S. qt.)
	Lubrication system	Pressure and wet sump
	Air filtration	Oiled polyurethane foam
	Cylinder compression	12.0 ± 2.0 kg/cm ² (170 ± 28 psi)
	Intake valve Opens	-3° (B.T.D.C.) at 1 mm lift, 45° (B.T.D.C.) at 0 lift
	Closes	34° (A.B.D.C.) at 1 mm lift, 97° (A.B.D.C.) at 0 lift
	Exhaust valve Opens	33° (B.B.D.C.) at 1 mm lift, 94° (B.B.D.C.) at 0 lift
	Closes	-4° (A.T.D.C.) at 1 mm lift, 49° (A.T.D.C.) at 0 lift
	Valve clearance	IN: 0.05 mm (0.002 in.) EX: 0.05 mm (0.002 in.)
	Idle speed	1,200 ± 100 rpm



ITEM																									
DRIVE TRAIN	Clutch	Wet, multi-plate type																							
	Transmission	4-speed constant-mesh																							
	Primary reduction	3.833																							
	Gear ratio I	2.769																							
	Gear ratio II	1.722																							
	Gear ratio III	1.272																							
	Gear ratio IV	1.000																							
	Final reduction	2.333 (15/35)																							
	Gearshift pattern	Left foot -operated return system																							
ELECTRICAL	Ignition	Battery and ignition coil																							
	Ignition timing "F" mark	15° B.T.D.C. at 1,200 rpm idle																							
	Full advance	37–40° B.T.D.C. at 3,100 rpm																							
	Starting system	Motor and kickstarter																							
	Alternator	0.08 kw/5,000 rpm																							
	Battery capacity	6V – 12AH																							
	Spark plug	<table><tr><th colspan="2">For cold climate below 5°C (41°F)</th><th colspan="2">Standard</th><th colspan="2">For extended high speed driving</th></tr><tr><td>ND</td><td>NGK</td><td>ND</td><td>NGK</td><td>ND</td><td>NGK</td></tr><tr><td>U20FS</td><td>C6H</td><td>U22FS</td><td>C7HS</td><td>U24FB</td><td>C9H</td></tr></table>						For cold climate below 5°C (41°F)		Standard		For extended high speed driving		ND	NGK	ND	NGK	ND	NGK	U20FS	C6H	U22FS	C7HS	U24FB	C9H
	For cold climate below 5°C (41°F)		Standard		For extended high speed driving																				
	ND	NGK	ND	NGK	ND	NGK																			
	U20FS	C6H	U22FS	C7HS	U24FB	C9H																			
		[CR7HS (NGK), U22FSR-L (ND)]																							
	Headlight	25/35W																							
	Tail/stoplight	3/32 cp																							
	Turn signal light	21 cp																							
	Speedometer light	2 cp																							
Neutral indicator light	2 cp																								
Turn signal indicator light	1 cp																								
High beam indicator light	1 cp																								



SERVICE DATA

ENGINE

mm (in.)

ITEM		STANDARD	SERVICE LIMIT
Cylinder head warpage		—	0.1 (0.0039)
Cylinder head height		72.75–72.85 (2.8642–2.8681)	72.6 (2.8583)
Cylinder I.D.		53.00–53.01 (2.0866–2.0870)	53.1 (2.0905)
Piston O.D.		52.960–52.990 (2.0850–2.0862)	52.86 (2.0811)
Piston pin O.D.		13.994–14.000 (0.5509–0.5512)	13.98 (0.5504)
Piston pin bore		14.002–14.008 (0.5513–0.5515)	14.05 (0.5531)
Piston ring end gap	Top/second	0.15–0.35 (0.0060–0.0138)	0.5 (0.0197)
	Oil	0.2–0.9 (0.0078–0.0354)	—
Piston-to-piston ring clearance	Top/second	0.015–0.045 (0.0006–0.0018)	0.12 (0.0048)
	Oil	0.017 (0.0067)	—
Valve stem O.D.	IN	5.450–5.465 (0.2146–0.2152)	5.42 (0.2134)
	EX	5.430–5.445 (0.2138–0.2144)	5.40 (0.2126)
Valve guide I.D.	IN	5.475–5.485 (0.2156–0.2159)	5.50 (0.2165)
	EX	5.475–5.485 (0.2156–0.2159)	5.50 (0.2165)
Valve spring free length	Outer	36.45 (1.4350)	35.3 (1.3898)
	Inner	29.9 (1.1772)	29.0 (1.1417)
Valve seat width	IN/EX	1.0 (0.0394)	1.5 (0.0590)
Clutch disc thickness		3.0 (0.1181)	2.6 (0.1024)
Clutch plate warpage		0–0.1 (0–0.0039)	0.2 (0.0079)
Clutch spring free length		36.2 (1.4252)	33.1 (1.3031)
Cam lift	IN	27.695 (1.0904)	26.6 (1.0472)
	EX	27.522 (1.0835)	26.5 (1.0433)
Camshaft journal O.D.		19.967–19.980 (0.7861–0.7866)	19.92 (0.7843)
Camshaft bushing I.D.		20.063–20.083 (0.7899–0.7907)	20.20 (0.7965)
Crankshaft runout		—	0.1 (0.0039)
Connecting rod small end I.D.		14.016–14.034 (0.5518–0.5525)	14.08 (0.5543)
Connecting rod big end side clearance		0.1–0.4 (0.0039–0.0158)	0.6 (0.0236)
Connecting rod big end radial clearance		0.004–0.012 (0.0002–0.0005)	0.05 (0.0020)
Rocker arm shaft O.D.		9.978–9.987 (0.3928–0.3932)	9.17 (0.3610)
Rocker arm I.D.		10.000–10.015 (0.3937–0.3943)	10.1 (0.3976)
Oil pump	Inner-to-outer rotor clearance	0.15 (0.0059)	0.2 (0.0079)
	Rotor-to-cover clearance	0.01–0.07 (0.0004–0.0028)	0.12 (0.0048)
	Outer rotor-to-body clearance	0.15–0.18 (0.0059–0.0071)	0.25 (0.0098)
Shift fork I.D.		12.000–12.018 (0.4724–0.4731)	12.05 (0.4744)
Shift fork guide shaft O.D.		11.976–11.994 (0.4715–0.4722)	11.96 (0.4709)
Shift fork thickness (for end thickness)		5.00–5.07 (0.1969–0.1996)	4.70 (0.1850)
Kick starter pinion gear I.D.		18.020–18.041 (0.7094–0.7103)	18.07 (0.7114)
Kick starter spindle O.D.		17.959–17.980 (0.7070–0.7079)	17.93 (0.7059)

**FRAME**

mm (in.)

ITEM	STANDARD	SERVICE LIMIT
Front/rear axle bend	—	0.2 (0.0079)
Front brake drum I.D.	140.0 (5.5118)	141.0 (5.5512)
Rear brake drum I.D.	130.0 (5.1181)	131.0 (5.1575)
Front/rear brake lining thickness	4.0 (0.1575)	2.0 (0.0787)
Front fork spring free length	504.6 (19.9)	495 (19.5)
Front fork slider I.D.	31.042–31.104 (1.2221–1.2246)	31.165 (1.2270)
Front fork tube O.D.	30.925–30.950 (1.2175–1.2185)	30.87 (1.2154)
Swing arm pivot bushing clearance	0.2–0.3 (0.0079–0.0118)	0.5 (0.0197)
Rear shock absorber spring free length	184.1 (7.2480)	175.6 (6.9133)



TORQUE VALUES

ENGINE

TIGHTENING POINT	Q'TY	THREAD DIA (mm)	TORQUE kg-m (ft-lb.)
Crankshaft holder bolt nut	5	6	1.0-1.4 (7.2-10.1)
Cylinder head nut	8	8	1.6-2.0 (11.6-14.5)
Cylinder head cover bolt	2	6	0.8-1.2 (5.8-8.7)
AC generator rotor bolt	1	10	4.5-5.0 (32.5-36.2)
Drive gear bolt	1	16	4.5-6.0 (32.5-43.4)
Cam sprocket bolt	2	7	1.7-2.3 (12.3-16.6)

FRAME

TIGHTENING POINT	Q'TY	THREAD DIA (mm)	TORQUE kg-m (ft-lb.)
Steering stem nut	1	22	6.0-7.0 (43.4-50.6)
Fork top bridge bolt nut	2	7	2.0-2.5 (14.5-18.1)
Fork bottom bridge bolt nut	2	8	2.0-2.5 (14.5-18.1)
Handlebar holder bolt	4	8	2.0-2.5 (14.5-18.1)
Front axle nut	1	12	4.0-5.0 (28.9-36.2)
Rear axle nut	1	12	4.0-5.0 (28.9-36.2)
Engine hanger bolt nut	2	10	5.5-7.0 (39.8-50.8)
Engine hanger bolt nut	7	8	2.0-2.5 (14.5-18.1)
Rear brake torque link bolt nut	2	8	2.0-2.5 (14.5-18.1)
Shock absorber nut	4	10	3.0-4.0 (21.7-28.9)
Foot rest bolt	4	8	2.0-2.5 (14.5-18.1)
Driven sprocket bolt nut	4	10	5.5-6.5 (39.8-47.0)
Swing arm pivot bolt nut	1	12	5.0-6.0 (36.2-43.4)

Torque specifications listed above are important tightening points. Others should be torqued to standard torques below.

STANDARD TORQUES

TYPE	TORQUE kg-m (ft-lb.)	TYPE	TORQUE kg-m (ft-lb.)
5 mm bolt, nut	0.45-0.6 (3.3-4.3)	5 mm screw	0.35-0.5 (2.5-3.6)
6 mm bolt, nut	0.8-1.2 (5.8-8.7)	6 mm screw	0.7-1.1 (5.1-8.0)
8 mm bolt, nut	1.8-2.5 (13.0-18.1)	6 mm flange bolt, nut	1.0-1.4 (7.2-10.1)
10 mm bolt, nut	3.0-4.0 (21.7-28.9)	8 mm flange bolt, nut	2.4-3.0 (17.4-21.7)
12 mm bolt, nut	5.0-6.0 (36.2-43.4)	10 mm flange bolt, nut	3.0-4.0 (21.7-28.9)



SPECIAL TOOLS

SPECIAL TOOLS

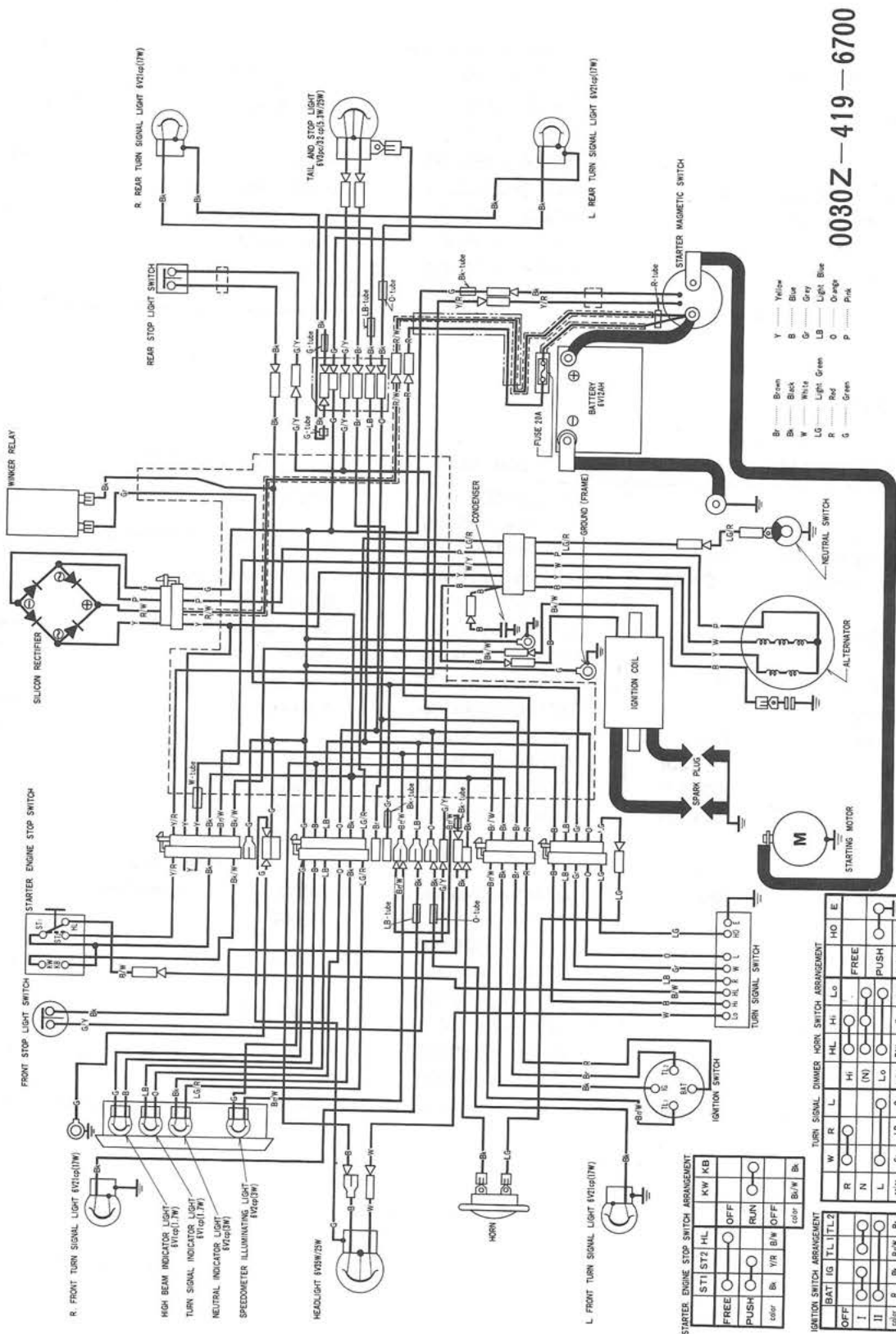
TOOL NAME	TOOL NO.	APPLICATION	REF. PAGE
6 mm Allen wrench	07917-3230000	Front fork	11-16, 11-19
Clutch outer holder	07923-1070001	Clutch	8-3, 8-7, 9-6
Ball race driver	07944-1150001	Ball race	11-22
Shock absorber spring compressor	07959-3290001	Shock absorber	12-10, 12-11
Spring holder attachment	07967-1150100	Shock absorber	12-10, 12-11
Valve guide reamer	07984-0980000	Valve guide	6-10, 6-11
Piston ring compressor	07954-4190000	} Cylinder	7-10
Piston base	07958-2500000		7-10

COMMON TOOLS

TOOL NAME	TOOL NO.	APPLICATION	REF. PAGE
Pin spanner	07702-0010000	Steering top thread	11-22, 11-23
Tappet adjusting	07708-0030400	} Tappet clearance adjustment	3-4
Tappet adjusting wrench (8x9)	07708-0030100		3-4
Steering stem wrench (30x32)	07716-0020400	Steering stem nut	11-21, 11-23
Extension bar	07716-0020500	Steering stem nut	11-21, 11-23
Universal holder	07725-0010101	Drive sprocket	9-4
Rotor puller	07733-0020000	Rotor	9-7
Valve guide driver/remover (5.5)	07742-0010100	} Valve guide	6-11
Valve guide cutter	07742-0030100		6-10, 6-11
Valve guide pilot (5.5)	07742-0030200	} Wheel bearing, crankcase bearing	6-10, 6-11
Bearing driver (32x35)	07746-0010100		10-8
Bearing driver (42x47)	07746-0010300		11-10, 12-4
Bearing driver (52x55)	07746-0010400		10-9
Driver pilot (15)	07746-0040300		11-10, 12-4
Driver pilot (20)	07746-0040500		10-8
Driver pilot (35)	07746-0040800		10-9
Driver handle B	07746-0020100		10-9
Driver handle A	07749-0010000		11-10, 12-4
Fork seal driver body	07747-0010100	} Front fork oil seal	11-19
Driver attachment (C)	07747-0010400		11-19
Valve spring compressor	07757-0010000	Valve	6-8, 6-16
Float gauge	07401-0010000		4-6



WIRING DIAGRAMS



0030Z-419-6700

Y Yellow
B Blue
BK Black
W White
LG Light Green
R Red
G Green
LB Light Blue
Gr Gray
Or Orange
P Pink

STARTER ENGINE STOP SWITCH ARRANGEMENT

ST1	ST2	HL	KW	KB
FREE	OFF	OFF	OFF	OFF
PUSH	ON	ON	ON	ON
color	Bk	W/B	W/B	W/B

IGNITION SWITCH ARRANGEMENT

BATT	IG	TL	TL2
OFF	I	I	I
ON	II	II	II
color	R	Bk	Bk/W

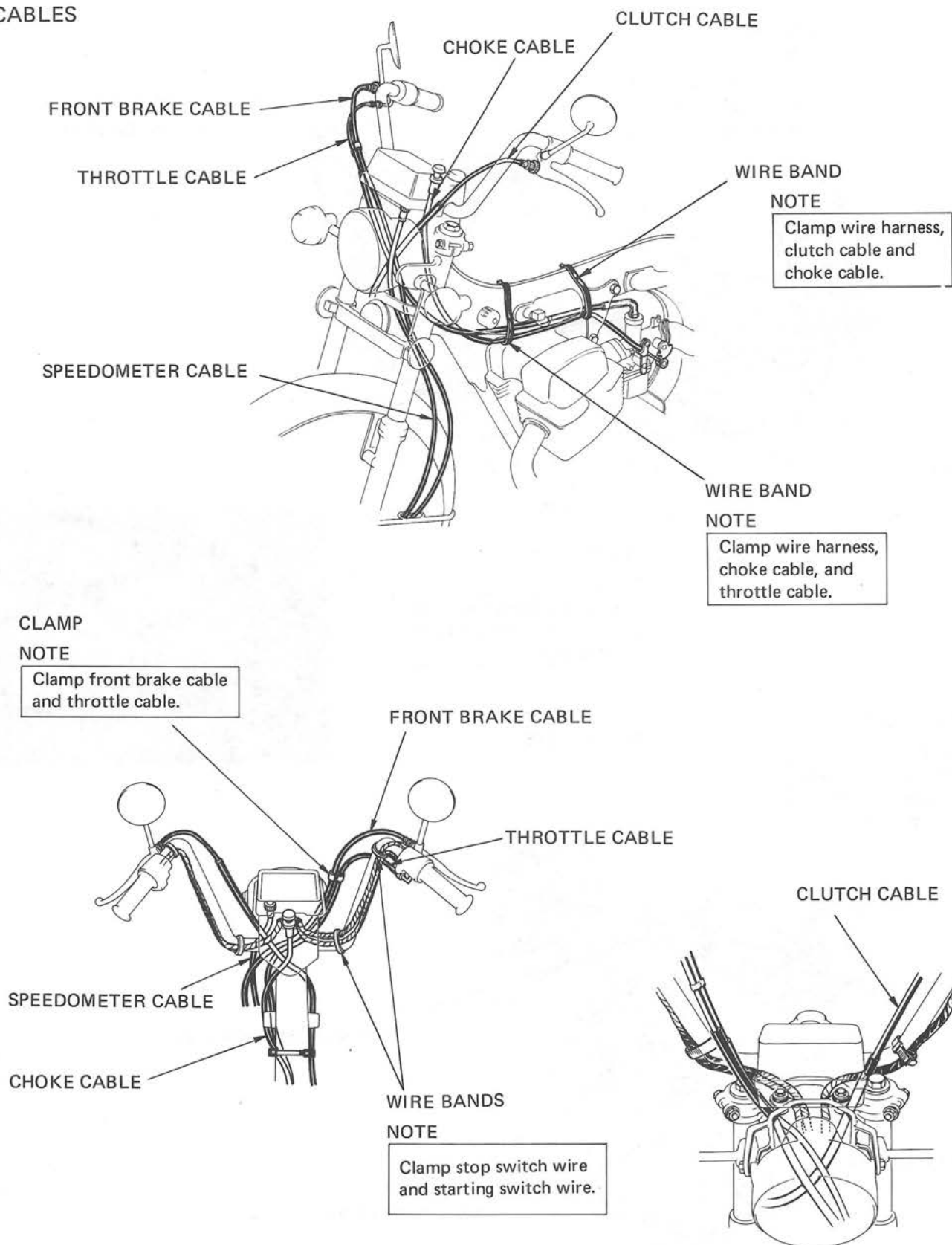
TURN SIGNAL DIMMER HORN SWITCH ARRANGEMENT

W	R	L	HL	H	LH	LH	HO	E
W	R	L	HL	H	LH	LH	HO	E
FREE	FREE	FREE	FREE	FREE	FREE	FREE	FREE	FREE
PUSH	PUSH	PUSH	PUSH	PUSH	PUSH	PUSH	PUSH	PUSH
color	W	B	W	W	W	W	W	W



CABLE & HARNESS ROUTING

• CABLES





• WIRE HARNESSES

WIRE BAND

NOTE

Clamp wire harness,
clutch cable and
choke cable.

TURN SIGNAL SWITCH WIRE
LIGHTING SWITCH WIRE

BATTERY

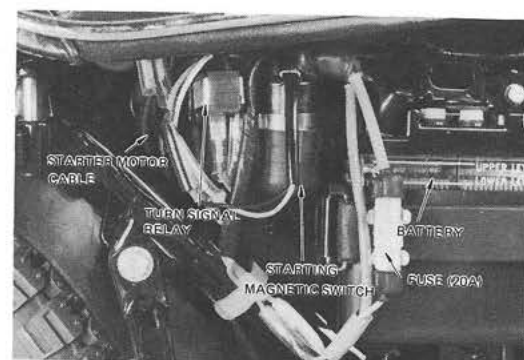
STARTING MOTOR

WHITE TAPE

NOTE

Install the white tape of the
wire harness into the center
of the clip.

CLIP



WIRE BAND

NOTE

Clamp wire harness,
choke cable, and
throttle cable.

WIRE HARNESS

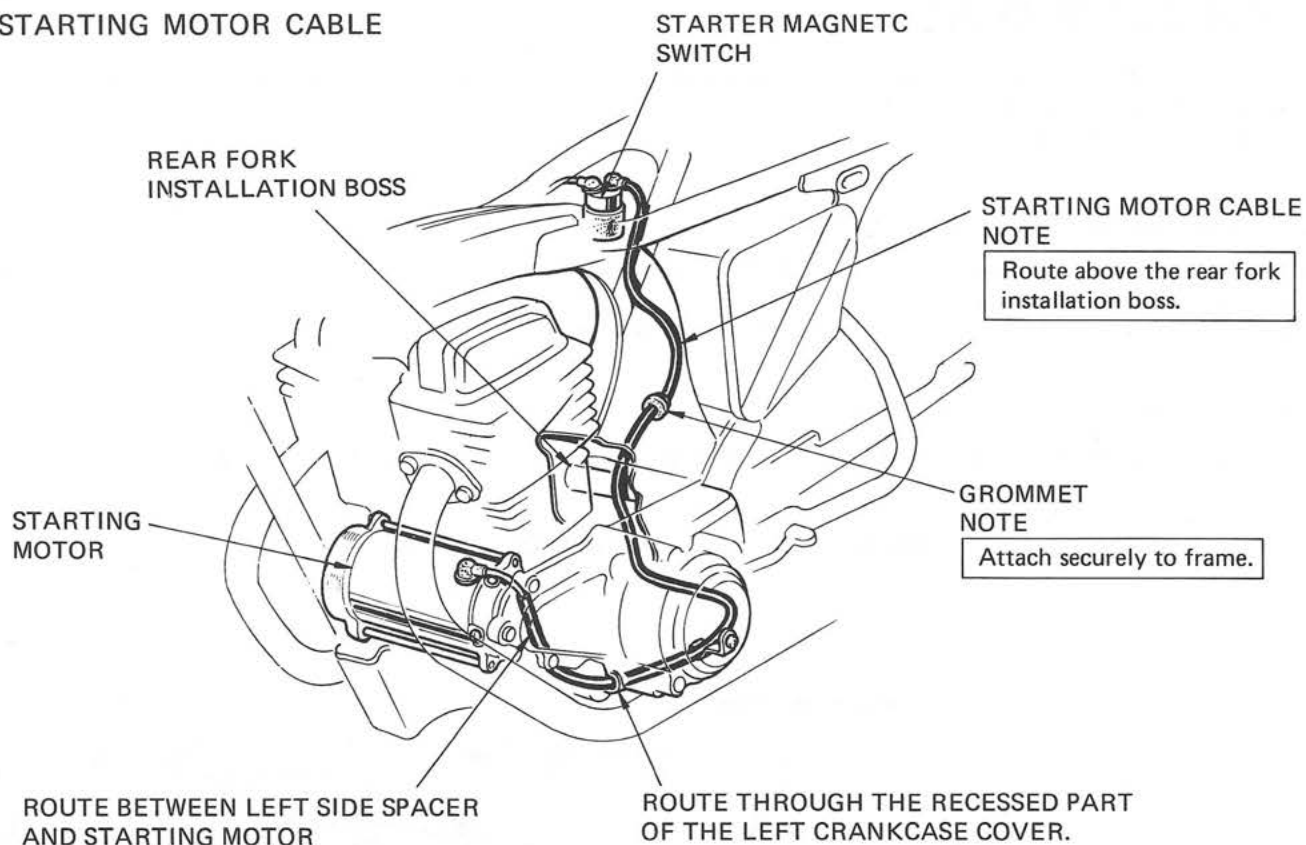
SILICON RECTIFIER

IGNITION COIL

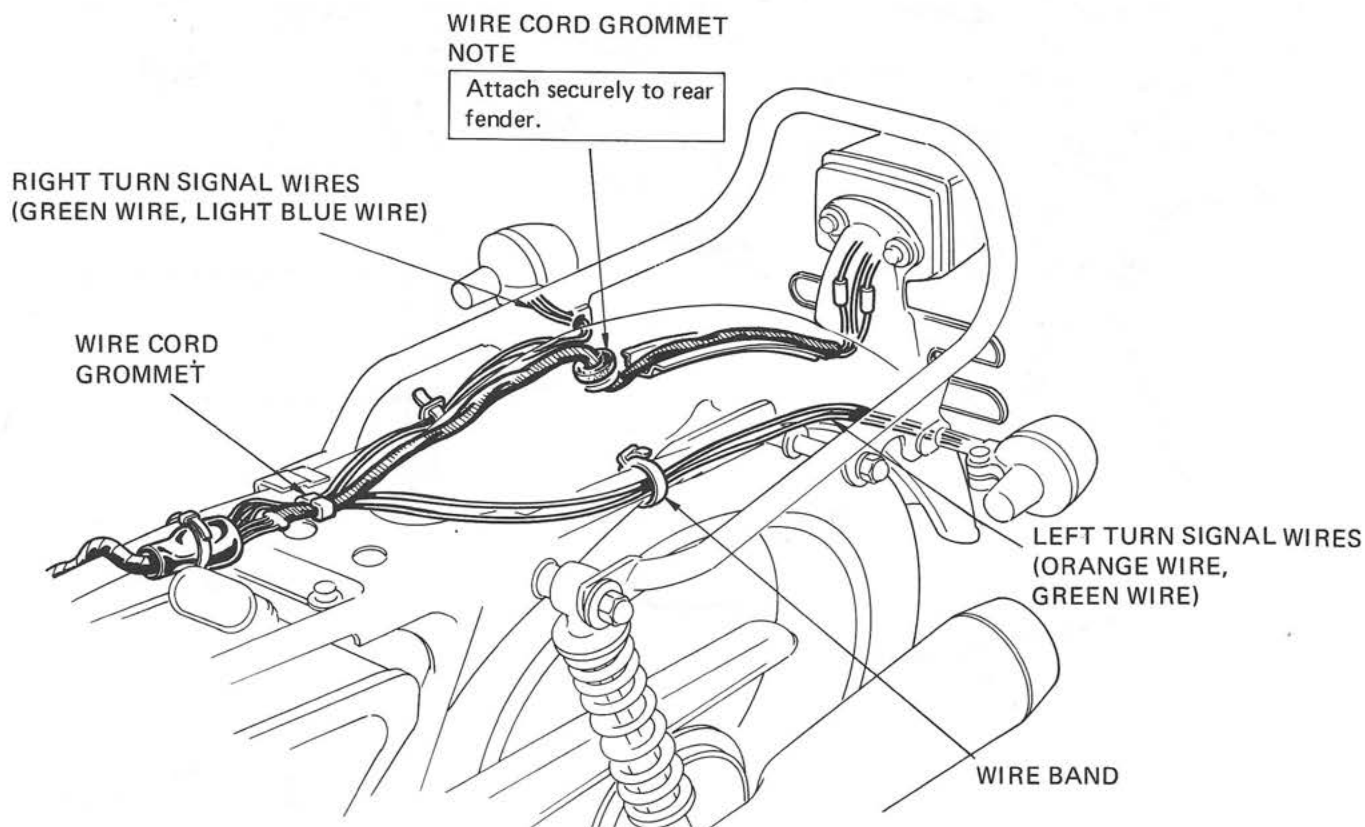
A.C. GENERATOR WIRES



● **STARTING MOTOR CABLE**



● **TURN SIGNAL AND TAILLIGHT WIRES**





EMISSION CONTROL SYSTEM (USA only)

The CM185T is equipped with an Exhaust and Crankcase Emission Control Systems, which are effective in reducing carbon monoxide and hydrocarbon emissions.

These systems are described below.

● EXHAUST EMISSION CONTROL SYSTEM

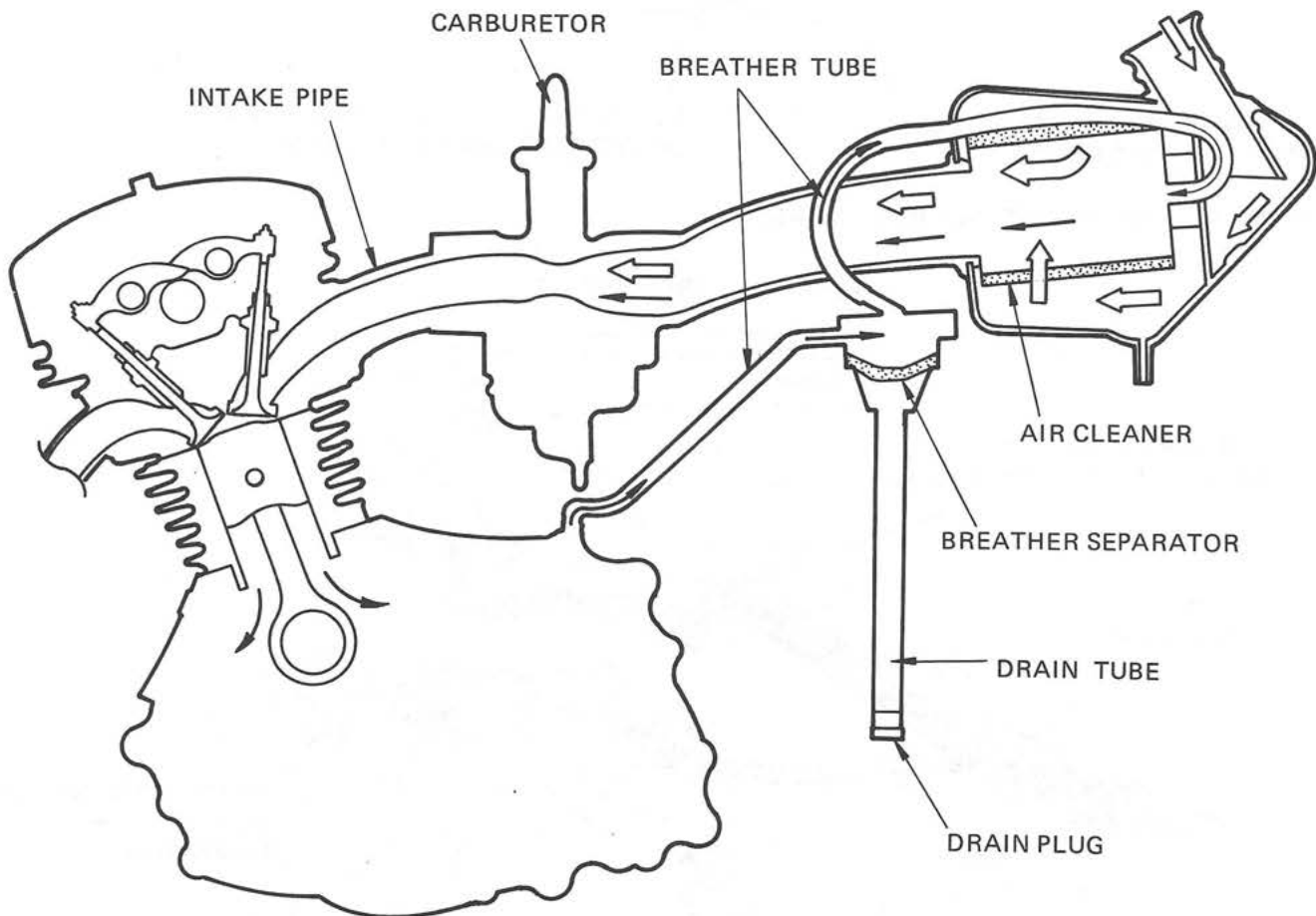
The exhaust emission control system is composed of a factory pre-set carburetor. No adjustments should be made except idle speed with the throttle stop screw.

This system is separate from the crankcase emission control system.

● CRANKCASE EMISSION CONTROL SYSTEM

Blow-by gas is returned to the combustion chamber through the breather tube, separator and intake pipe.

CRANKCASE EMISSION CONTROL SYSTEM



← FRESH AIR
→ BLOW-BY GAS



MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION in the Owner's Manual at every maintenance period.

I: INSPECT, CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY.
 C: CLEAN
 R: REPLACE
 A: ADJUST

	ITEM	FREQUENCY	WHICHEVER OCCURS FIRST → ↓	ODOMETER READING [NOTE (4)]				
		EVERY		600 mi (1,000 km)	3,600 mi (6,000 km)	7,200 mi (12,000 km)	10,800 mi (18,000 km)	Refer to
EMISSION RELATED ITEMS	ENGINE OIL	YEAR	R	REPLACE EVERY 1,800 mi (3,000 km)				Page 2-2
	* ENGINE OIL SCREEN					C		Page 2-2
	CRANKCASE BREATHER[NOTE(1)]	(USA only)			C	C	C	Page 3-3
	AIR CLEANER [NOTE (2)]				C	C	C	Page 3-2
	* FUEL LINES				I	I	I	Page 3-3
	SPARK PLUGS				I	R	I	Page 3-3
	* VALVE CLEARANCE		I	I	I	I	I	Page 3-4
	* CONTACT BREAKER POINTS		I	I	I	I	I	Page 3-5
	* IGNITION TIMING		I	I	I	I	I	Page 3-5
	* CAM CHAIN TENSION		A	A	A	A	A	Page 3-7
	* THROTTLE OPERATION		I	I	I	I	I	Page 3-7
	* CARBURETOR IDLE SPEED		I	I	I	I	I	Page 3-8
	* CARBURETOR CHOKE				I	I	I	Page 3-8
NON-EMISSION RELATED ITEMS	DRIVE CHAIN [NOTE (3)]			I EVERY 600 mi (1,000 km)				Page 3-10
	BATTERY	MONTH		I	I	I	I	Page 3-11
	BRAKE SHOE WEAR				I	I	I	Page 3-11
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	* BRAKE LIGHT SWITCH			I	I	I	I	Page 3-14
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	CLUTCH FREE PLAY			I	I	I	I	Page 3-15
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	* NUTS, BOLTS, FASTENERS			I	I	I	I	Page 3-18
	** WHEELS/SPOKES			I	I	I	I	Page 3-17
	** STEERING HEAD BEARING			I		I		Page 3-18

** IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

* SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND IS MECHANICALLY QUALIFIED.

NOTES: (1) MORE FREQUENT SERVICE MAY BE REQUIRED WHEN RIDING IN RAIN, OR AT FULL THROTTLE.

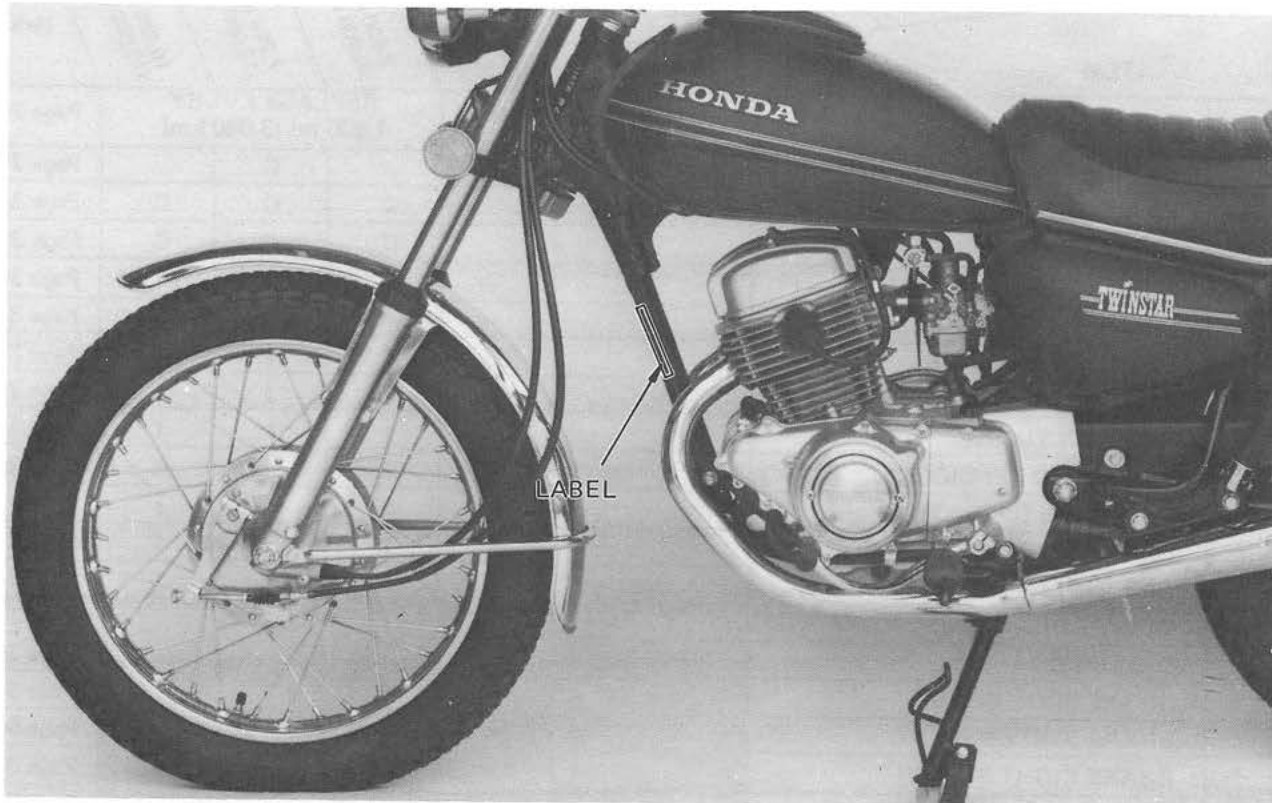
(2) MORE FREQUENT SERVICE MAY BE REQUIRED WHEN RIDING IN DUSTY AREAS.

(3) INITIAL SERVICE PERIOD 200 miles (300 km)

(4) FOR HIGHER ODOMETER READINGS, REPEAT AT THE FREQUENCY INTERVAL ESTABLISHED HERE.

**EMISSION CONTROL INFORMATION LABEL (USA only)**

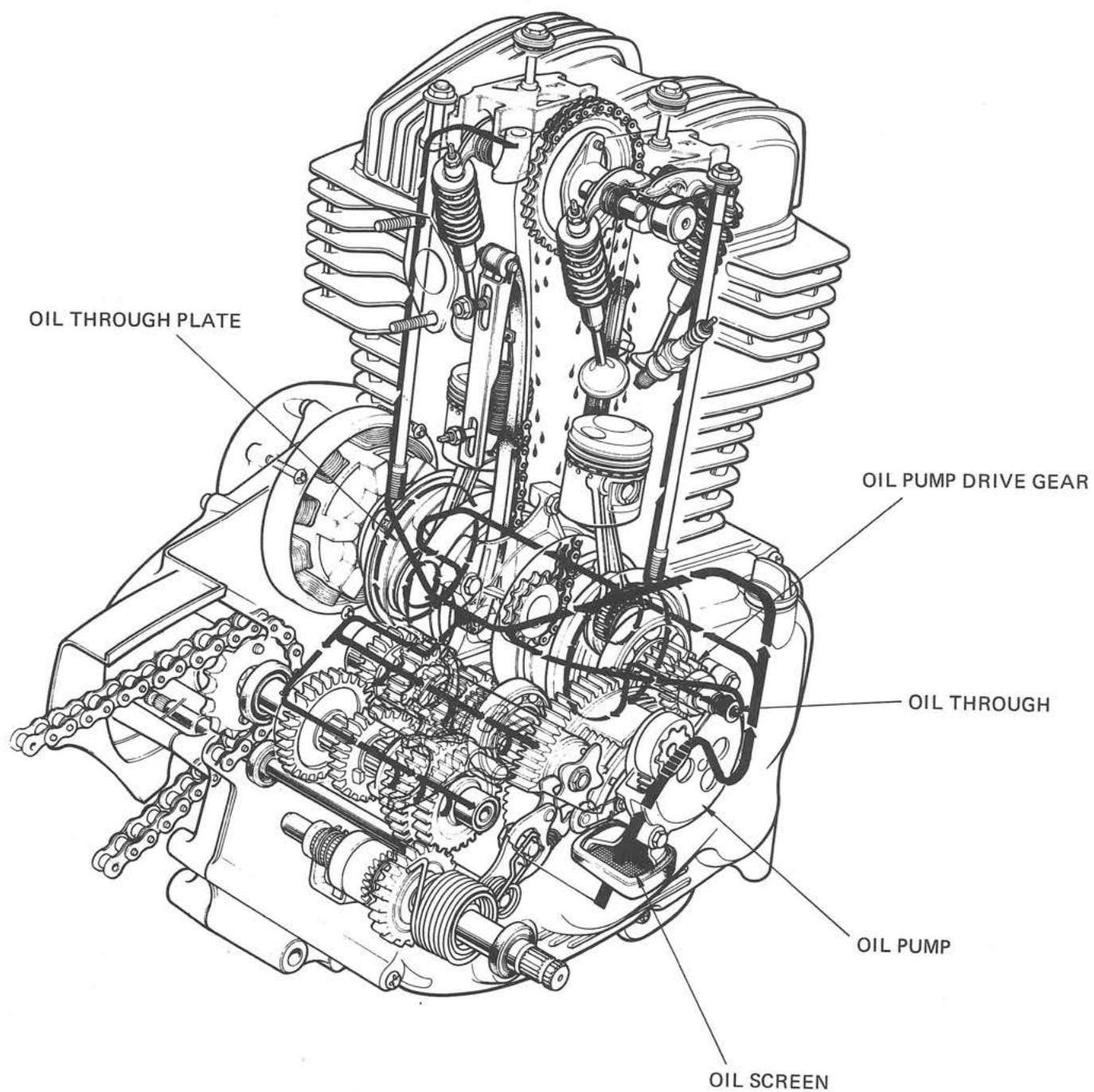
An Emission Control Information Label is located on the CM185T's front frame downtube. It contains basic tune-up specifications for CM185T's manufactured after December 31, 1977.





HONDA
CM185T

LUBRICATION DIAGRAM





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ENGINE OIL LEVEL CHECK	2-2
ENGINE OIL CHANGE	2-2
OIL FILTER SCREEN CLEANING	2-2
LUBRICATION POINTS	2-3

SERVICE INFORMATION

● WORKING PRACTICE

This section describes inspection and replacement of engine oil and cleaning of the oil filter. Servicing procedure of the oil pump is described in Section 8.

● SPECIFICATIONS

Oil capacity: 1.5 liter (1.6 U.S. qt.) at engine assembly
1.4 liter (1.5 U.S. qt.) at draining

Oil: HONDA 4-stroke oil or equivalent API service classification-SE

General all Temperature	SAE 10W-40
Above 15°C (59°F)	SAE 30
0°-15°C (32°-59°F)	SAE 20 or 20W
Below 0°C (32°F)	SAE 10W

Oil pump delivery: 4,900 cc/5,000 rpm

● TORQUE VALUE

Oil drain bolt: 3.0-5.0 kg-m (21.7-36.2 ft-lb.)

TROUBLESHOOTING

Oil Level Too Low

1. External oil leaks
2. Worn piston rings
3. Worn valve guide/or stem seal

Oil Contamination

1. Oil not changed often enough
2. Faulty head gasket
3. Worn piston rings

Low Oil Pressure

1. Plugged oil pick-up screen
2. Oil pump worn
3. External oil leaks
4. Oil level low

High Oil Pressure

1. Incorrect oil being used
2. Plugged oil passage

No Oil Pressure

1. Oil level too low
2. Oil pump drive gear broken
3. Faulty oil pump
4. Leaks from oil circuit



ENGINE OIL LEVEL CHECK

Support the motorcycle upright on level ground.

Check the oil level with the oil level gauge.

Do not screw in the cap when making this check.

If the oil level is below the lower level mark, fill to the upper level mark.

ENGINE OIL CHANGE

NOTE

Drain the oil while the engine is warm and the vehicle upright to assure complete draining.

Remove the oil filler cap and drain plug and drain the oil.

Operate the kick starter 2 or 3 times to completely drain any residual oil.

Reinstall the drain plug, making sure the sealing washer is in good condition.

Fill the crankcase with the recommended grade oil.

ENGINE OIL CAPACITY:

1.4ℓ (1.5 U.S. qt.) at draining

1.5ℓ (1.6 U.S. qt.) at engine assembly

Start the engine and allow to idle for 2-3 minutes.

Stop the engine, make sure that the oil level is at the upper level mark with the vehicle in an upright position and there are no oil leaks.

OIL FILTER SCREEN CLEANING

Remove the drain plug and drain the oil.

Remove the kick starter pedal and the right muffler.

Disconnect the clutch cable from the clutch lever.

Remove the right crankcase cover.

Remove the oil filter screen with the oil pump. Clean the oil filter screen.

Reinstall the oil filter screen with the oil pump, the right crankcase cover, the clutch cable, the right muffler and the kick starter pedal.

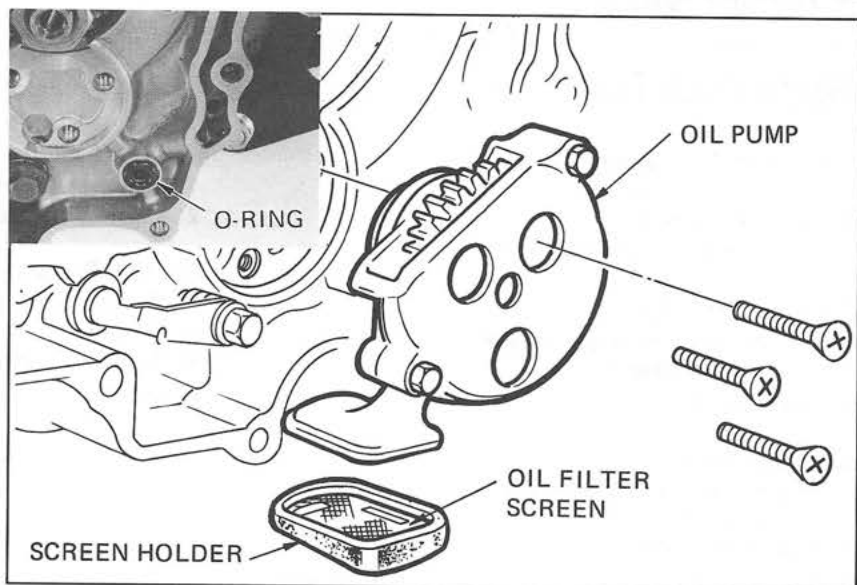
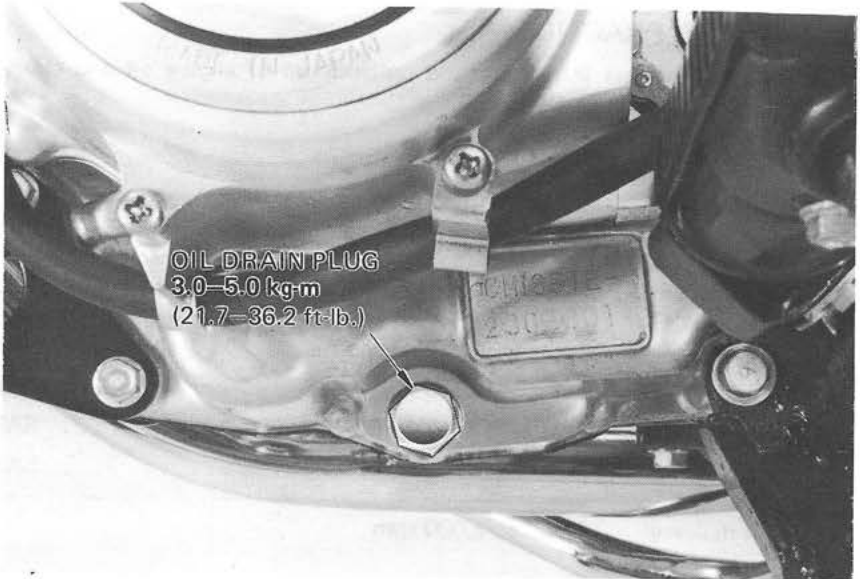
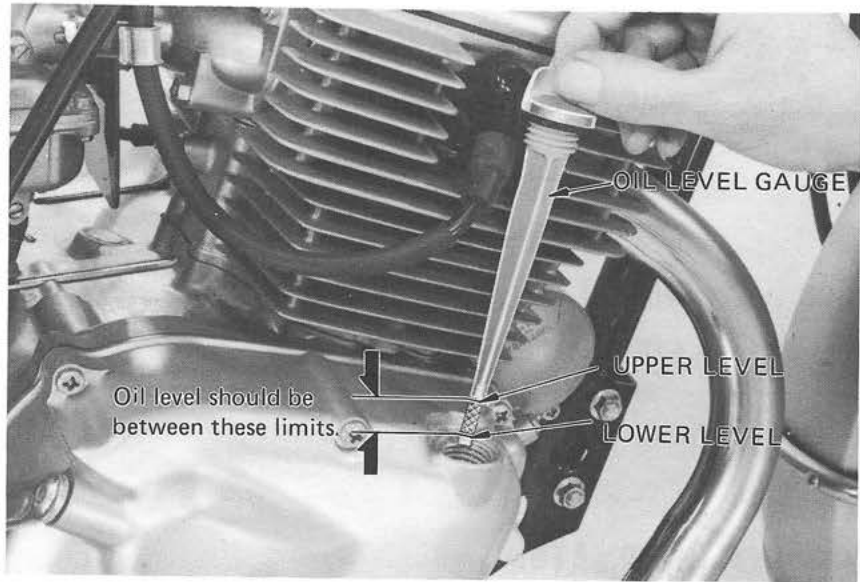
NOTE

During installation check the seating of the O-ring.

Adjust the clutch cable.

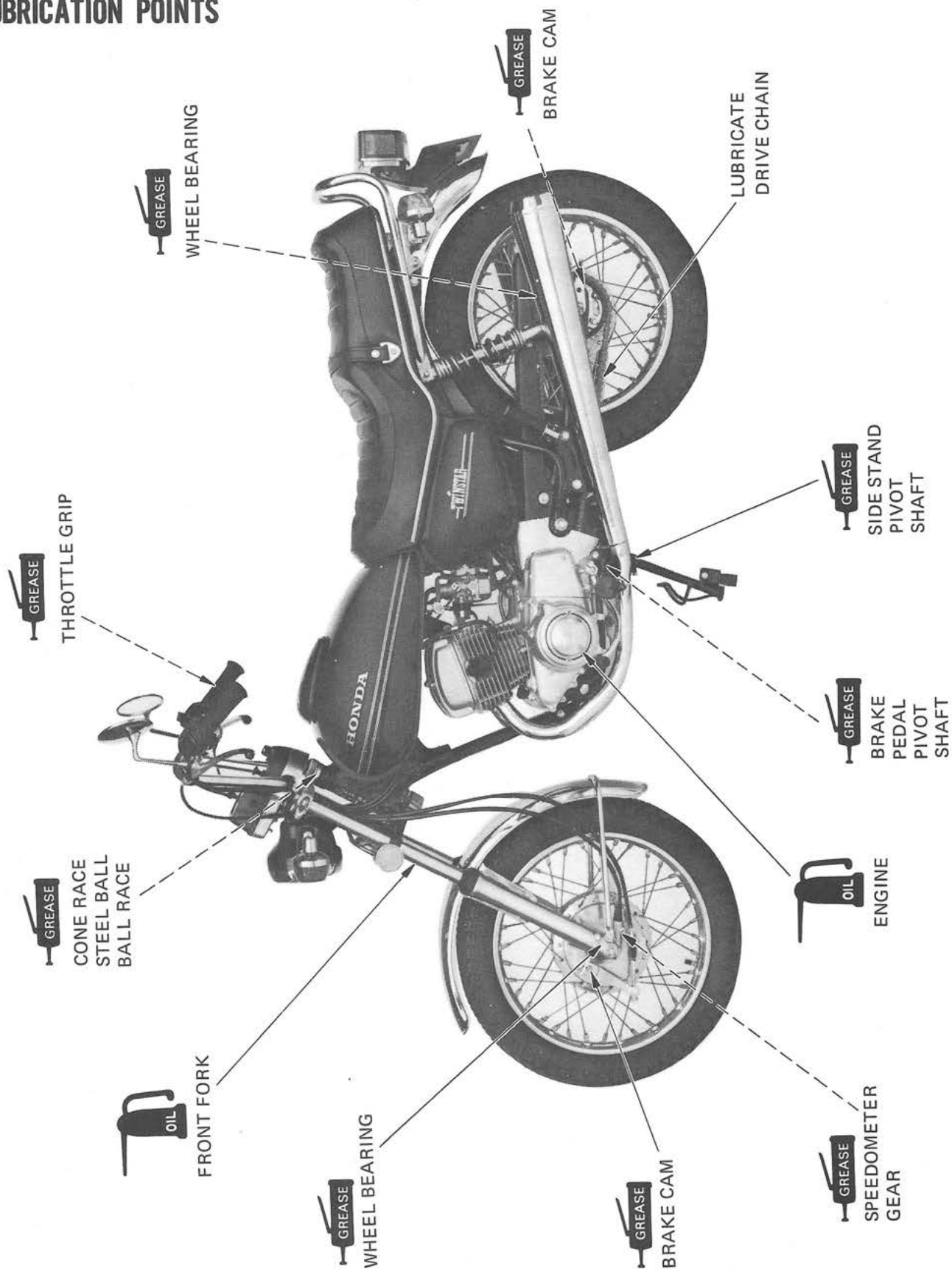
Fill the crankcase with specified engine oil, and start the engine.

Stop the engine, check the oil level and inspect for oil leaks.





LUBRICATION POINTS





HONDA
CM185T



SERVICE INFORMATION	3-1		
< ENGINE >		< CHASSIS >	
AIR CLEANER	3-2	DRIVE CHAIN	3-10
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SERVICE INFORMATION [] : Canadian type

● WORKING PRACTICE

- Engine oil level check see page 2-2.
- Engine oil change see page 2-2.
- Oil filter screen cleaning see page 2-2.

● SPECIFICATIONS

ENGINE

Spark plug
plug gap: 0.6–0.7 mm
(0.024–0.028 in.)

Type:

For cold climate below 5°C (41°F)		Standard		For extended high speed driving	
ND	NGK	ND	NGK	ND	NGK
U20FS	C6H	U22FS	C7HS	U24FB	C9H

[CR7HS (NGK), U22FSR-L (ND)]

Valve clearance INTAKE: 0.05 mm (0.002 in.)
EXHAUST: 0.05 mm (0.002 in.)
Throttle free play: 2–6 mm (1/8–1/4 in.)
Idle speed: 1,200 ± 100 rpm

● TORQUES

Front axle nut: 4.0–5.0 kg-m (28.9–36.2 ft-lb.)
Rear axle nut: 4.0–5.0 kg-m (28.9–36.2 ft-lb.)
Spoke nipples: 0.2–0.35 kg-m (1.4–2.5 ft-lb.)

CHASSIS

Front brake free play: 10–20 mm (3/8–3/4 in.)
Rear brake free play: 20–30 mm (3/4–1-1/4 in.)
Drive chain free play: 15–25 mm (5/8–1 in.)
Clutch free play: 10–20 mm (3/8–3/4 in.)

Tire pressures:

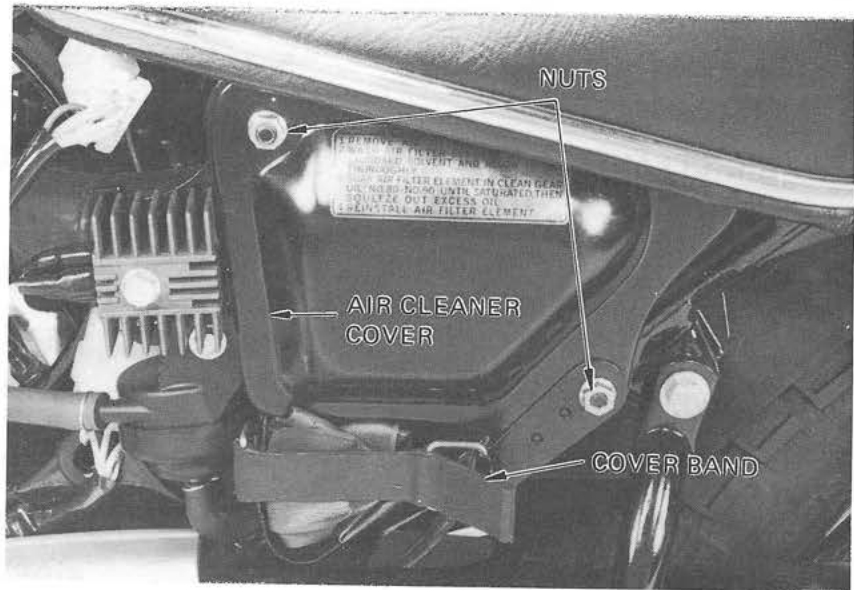
Up to 90 kg (200 lbs.) load
Front 1.75 kg/cm² (25 psi)
Rear 2.0 kg/cm² (28 psi)

Up to vehicle capacity load
Front 1.75 kg/cm² (25 psi)
Rear 2.25 kg/cm² (32 psi)

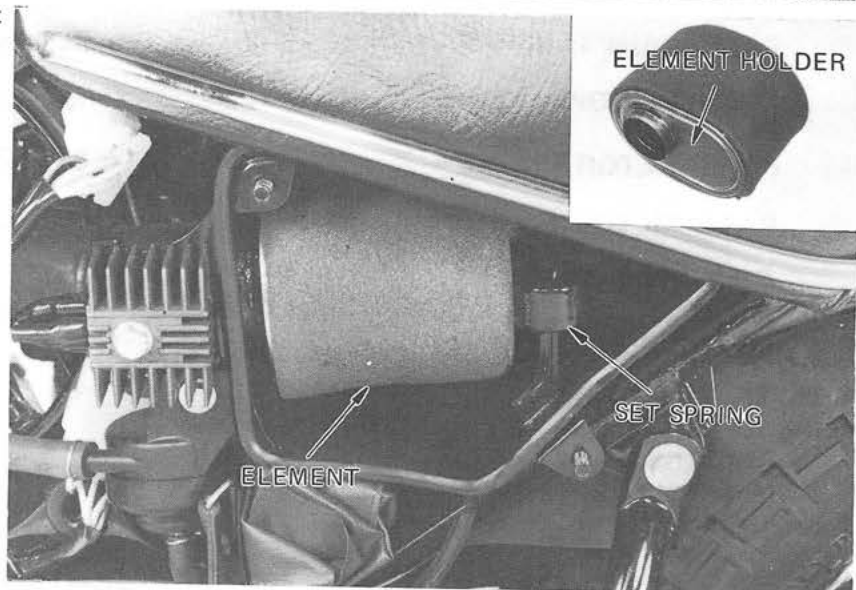


AIR CLEANER

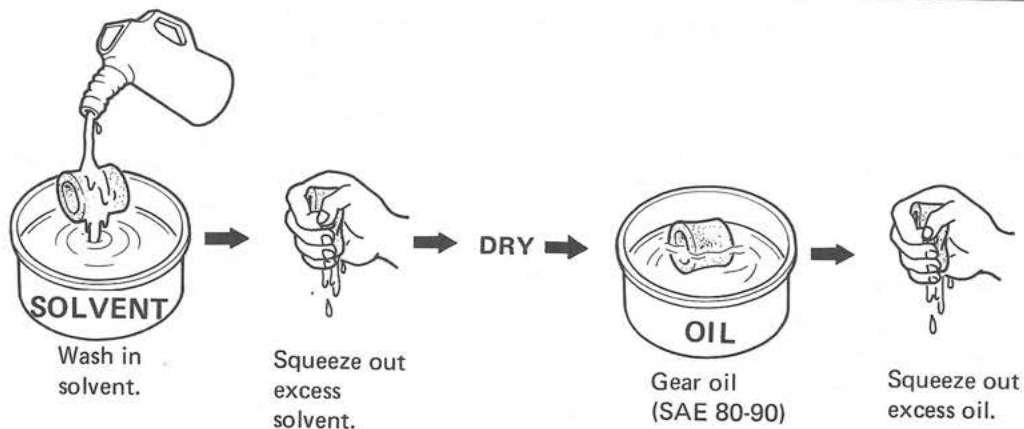
Remove the left side cover.
 Remove the two air cleaner cover attaching nuts, and cover.



Remove the air cleaner set spring and element holder.
 Remove the air cleaner element retainer and element.



Wash the element in non-flammable or high flash point solvent.
 Allow to dry.
 Soak the element in gear oil (SAE 80-90), and squeeze out excess.



Install the air cleaner element.
 Install the holder, set spring and air cleaner cover.
 Install the left side cover.



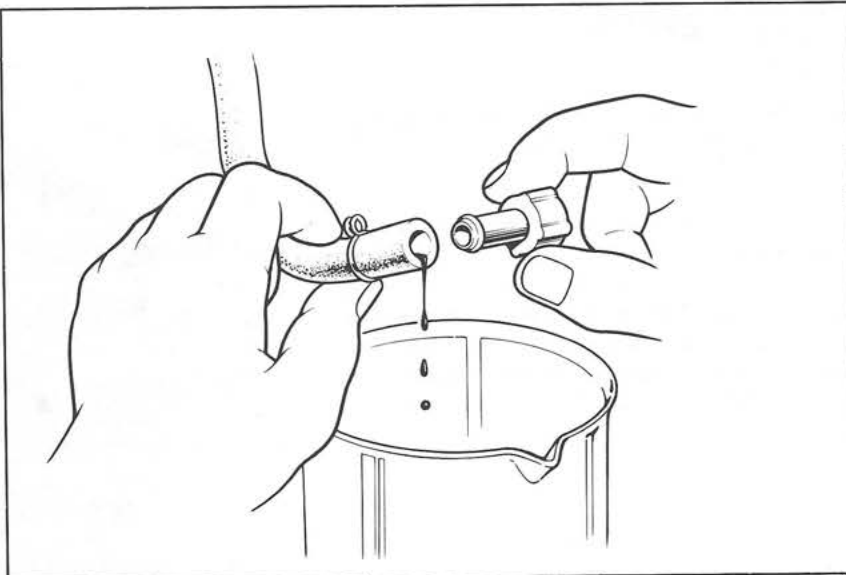
CRANKCASE BREATHER (USA only)

Remove drain plug from tube, and drain deposits.

Reinstall drain plug.

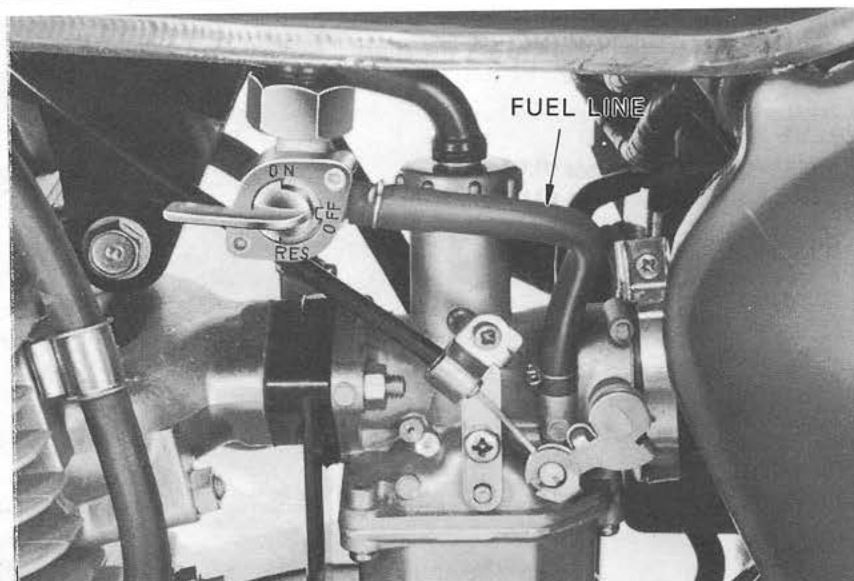
NOTE

Service more frequently when driven in rainy conditions or at wide open throttle, or if deposit level can be seen in the transparent section of drain tube.



FUEL LINES

Replace any parts which have deterioration, damage, or leakage.



SPARK PLUG

Disconnect the spark plug cap and remove the spark plugs with a spark plug wrench.

Visually inspect the spark plug electrodes for wear. The center electrode should have square edges and the side electrode should have a constant thickness.

Discard the spark plug if there is apparent wear or if the insulator is cracked or chipped. If the spark plug deposits can be removed by sandblasting or wire brushing, the spark plug can be reused. Inspect the gap with a gauge and adjust by bending the side electrode.

SPARK PLUG GAP: 0.6–0.7 mm
(0.024–0.028 in.)

RECOMMENDED REPLACEMENT:

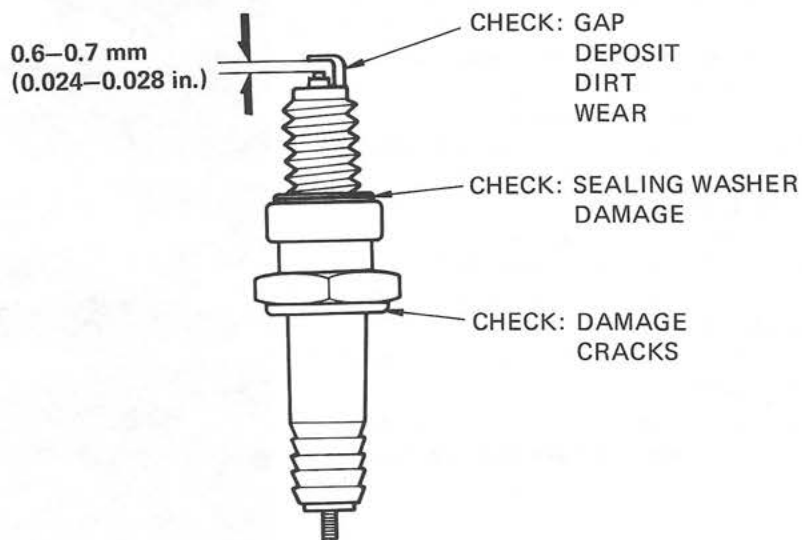
For cold climate: below 5°C (41°F)	U20FS (ND) or C6H (NGK)
Standard:	U22FS (ND) or C7HS (NGK)
For extended high speed driving:	U24FB (ND) or C9H (NGK)

Canadian type: CR7HS (NGK), U22FSR-L (ND)

Check the spark plug sealing washer and replace with a new one if damaged.

NOTE

To install, turn finger tight then tighten with a spark plug wrench.





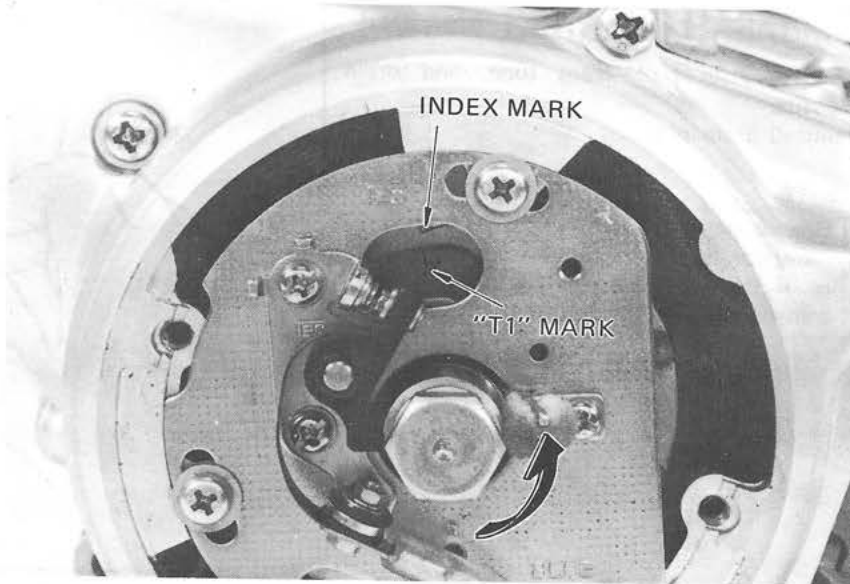
VALVE CLEARANCE

NOTE

Inspect and adjust valve clearance while the engine is cold (below 35°C/95°F).

Remove the cylinder head cover and the generator cover.

Rotate the generator rotor counterclockwise and align the "T1" mark on the spark advancer with the index mark on the left crankcase cover. Piston of cylinder being checked must be at T.D.C. (Top Dead Center) of compression stroke.

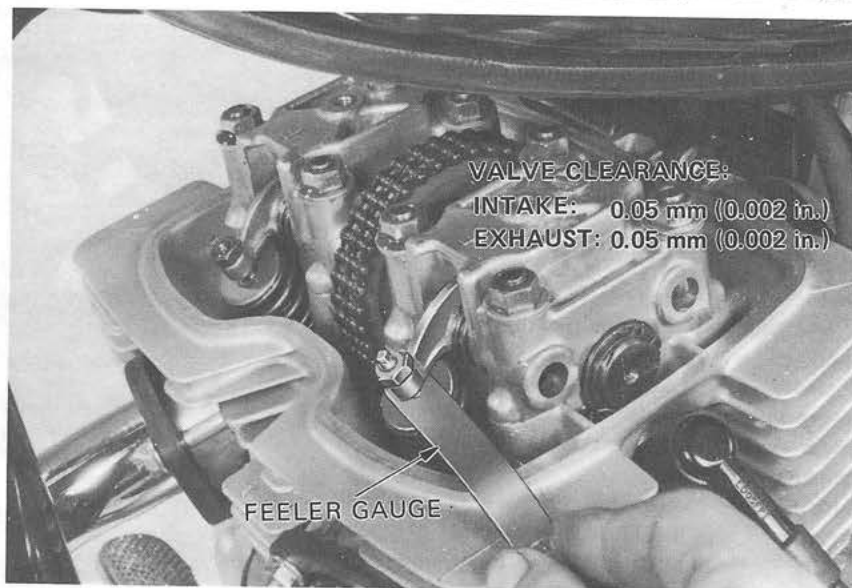


Inspect intake and exhaust valve clearances by inserting a feeler gauge between the adjusting screw and valve stem.

VALVE CLEARANCE:

INTAKE: 0.05 mm (0.002 in.)

EXHAUST: 0.05 mm (0.002 in.)



Adjust by loosening the lock nut and turn the adjusting screw until there is a slight drag on the feeler gauge. Hold adjusting screw and tighten the lock nut.

Recheck the valve clearance.

Rotate generator rotor one full turn (360°) counterclockwise and align "T1" mark with index mark.

Piston of other cylinder being checked must be at T.D.C. of compression stroke.

Adjust valves of the other cylinder using above procedures.

Reinstall cylinder head cover and generator rotor cover.

TORQUE: CYLINDER HEAD COVER BOLTS
0.8–1.2 kg-m (5.8–7.8 ft-lb.)



VALVE ADJUSTING

No. 07708-0030400

VALVE ADJUSTING WRENCH

No. 07708-0030100 or

No. 07908-0010000

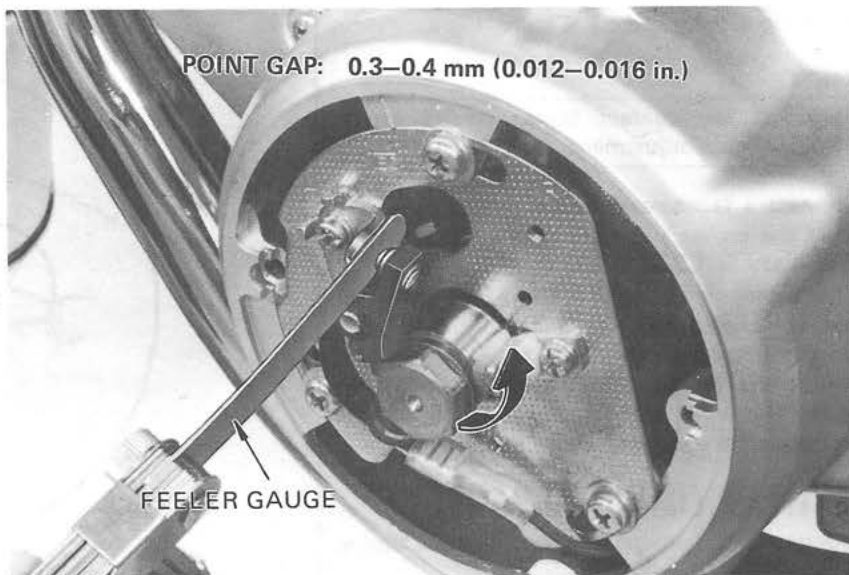


CONTACT POINT GAP

Clean the point contact surfaces with an electrical contact cleaner to remove any oil film or dirt. If the surfaces are level but grayish in color or slightly pitted, file them with a flexible point file lightly. If the points have a noticeable transfer of metal from one surface to the other, have evidence of heavy arcing, or are worn at an angle, replace the point set. Rotate the rotor counterclockwise until points are at their widest gap.

Check the point gap with a feeler gauge.

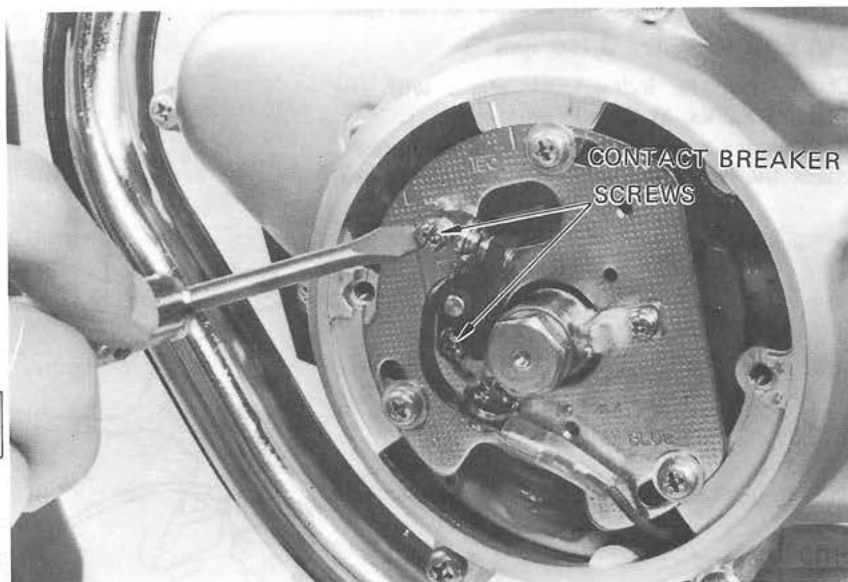
POINT GAP: 0.3–0.4 mm (0.012–0.016 in.)



If the gap exceeds the specified range, loosen two contact breaker plate locking screws and move the contact breaker plate to achieve the correct gap.

Retighten the locking screws and recheck the point gap.

Adjust the ignition timing.



IGNITION TIMING

NOTE

Adjust the contact breaker point gap before this adjustment.

• Using a Continuity Light and Battery

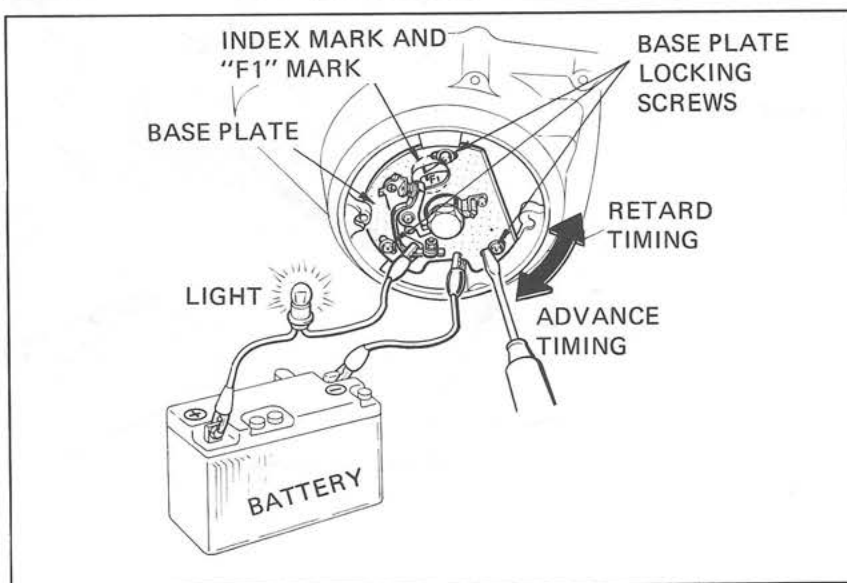
Connect one of the lead cables of continuity light to contact breaker terminal, and the other end to the positive (+) terminal of battery.

Ground the negative (–) battery terminal to the frame body.

Rotate generator rotor counterclockwise, and align the "F1" mark on the spark advancer to index mark on the left crankcase cover. The timing is correct, if light goes out at this time. Adjust the timing as follows, if necessary.

- Loosen three contact breaker base plate locking screws and rotate base plate clockwise or counterclockwise to achieve the correct timing.
- When the timing is too early, rotate base plate counterclockwise.
When the timing is too late, rotate base plate clockwise.
- Retighten locking screws and recheck the timing.

Install the generator cover.





- Using a Stroboscopic Timing Light

NOTE

Adjust the contact breaker point gap before this adjustment.

Connect a tachometer and a timing light. Start the engine and make sure that the engine idle speed is **1,200 ± 100 rpm**.

The timing is correct, if the "F1" mark on the spark advancer is aligned to index mark on the left crankcase cover.

Adjust the timing, using the same procedures as for the continuity light.

Reinstall the generator cover.

IGNITION TIMING ADVANCE

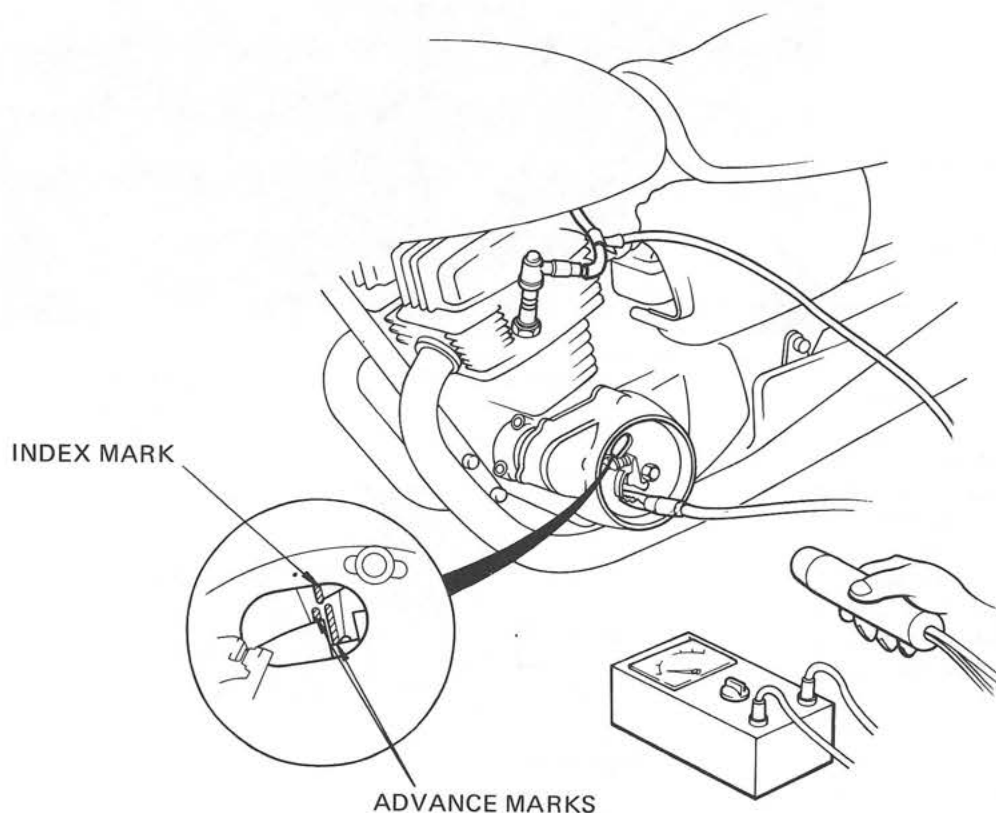
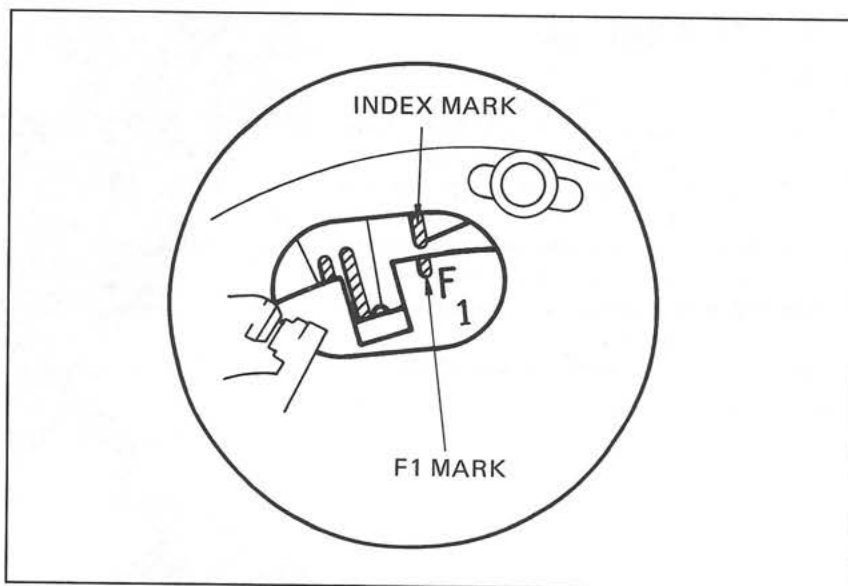
Connect a tachometer and stroboscopic timing light.

Raise the engine speed to full **3,100 rpm**.

FULL ADVANCE: 3,100 rpm

Check that the index mark aligns with the advance marks, at **3,100 rpm**.

If the index mark is out of the advance marks, check the spark advance operation and replace.





CAM CHAIN TENSION

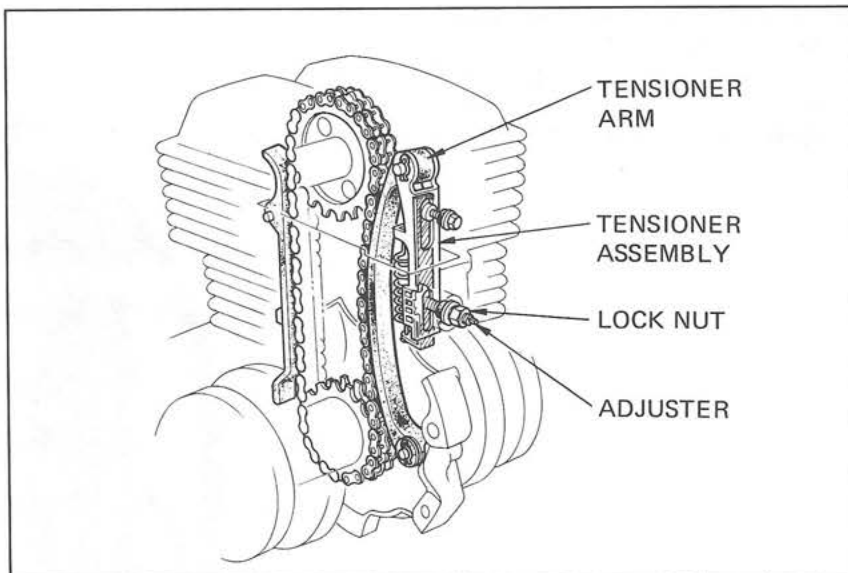
Stop the engine and remove the generator rotor cover. Rotate the generator rotor counter-clockwise and align the "T1" mark on the spark advancer with the index mark on the left crankcase cover.

Loosen the cam chain tensioner lock nut. When the lock nut is loosened the cam chain will be automatically positioned to provide the correct tension.

After adjustment, tighten the lock nut securely.

NOTE

When tightening the lock nut, hold the adjusting bolt to prevent it from turning with the lock nut.



THROTTLE OPERATION

Inspect the throttle cable for deterioration, damage, or kinks and measure the throttle grip free play at the throttle grip flange.

THROTTLE GRIP FREE PLAY:

2–6 mm (1/8–1/4 in.)

Check for smooth throttle grip rotation from fully closed to fully open in all steering positions. Adjust or replace as necessary.

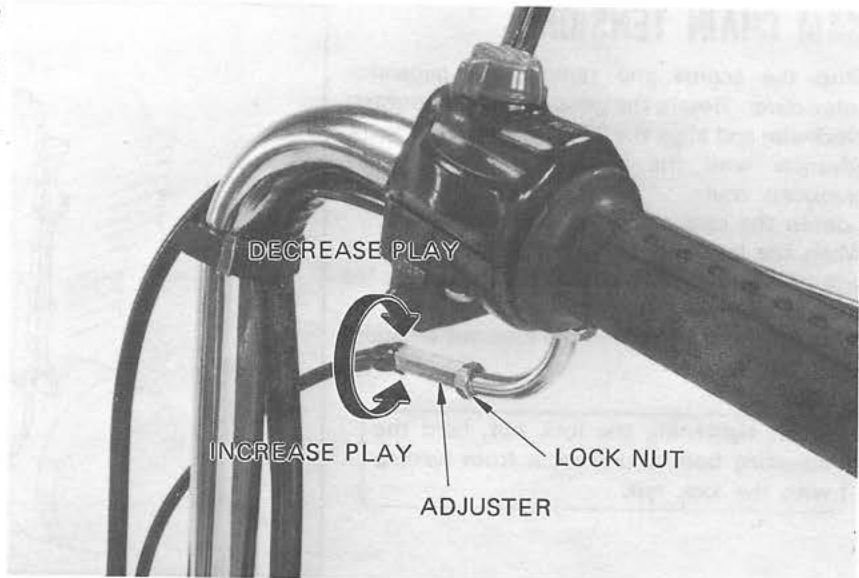


Adjust the free play, by loosening the adjusting lock nut and turning the adjuster. Tighten the lock nut securely. Major adjustments are made with the lower adjuster on the carburetor. Install the rubber cap securely, after adjustment.



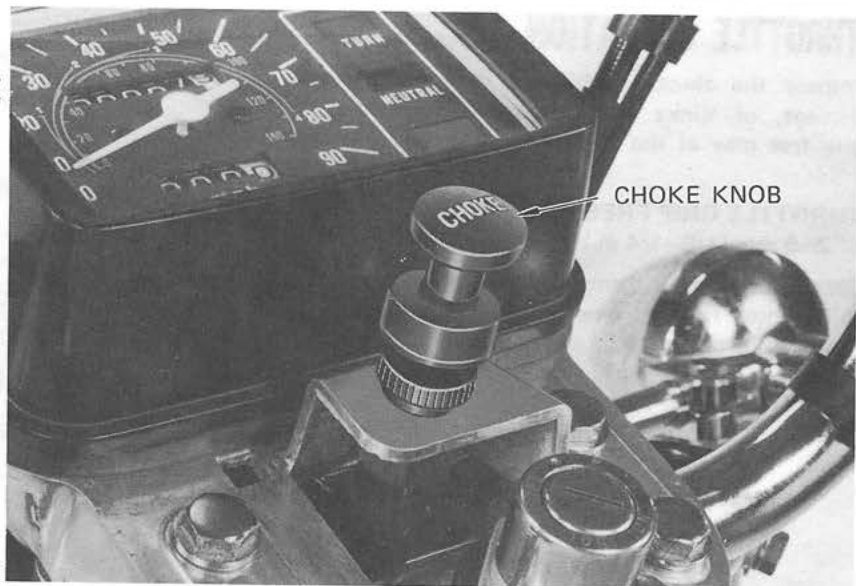


Minor adjustments are performed with the upper adjuster.
 Adjust with the throttle grip in the closed position.
 Recheck the operation of the throttle grip.



CARBURETOR CHOKE

Check the choke knob for smooth operation. Pull the choke knob out to "fully closed" and make sure that the choke valve is fully closed by moving the choke lever on carburetor. Adjust by loosening the choke cable clamp on the carburetor. Retighten the clamp, holding the choke lever "fully closed". Recheck the choke valve operation.



CARBURETOR IDLE SPEED

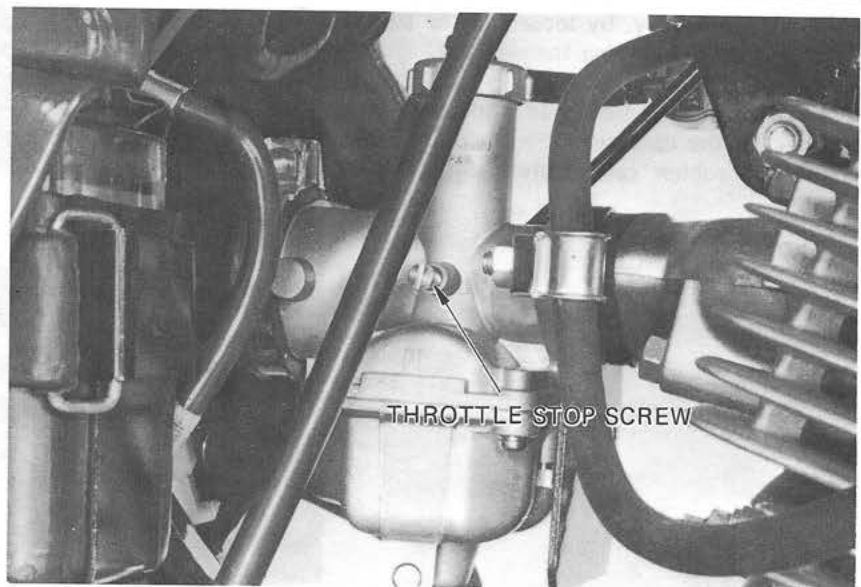
NOTE

Check the idle speed after all other maintenance items have been performed.

Support the vehicle in an upright position. Warm up the engine. Turn the throttle stop screw as required to obtain an idle speed of $1,200 \pm 100$ rpm.

NOTE

- The engine must be warm for accurate idle speed adjustment. Stop and go driving for ten minutes should be sufficient.
- Motorcycles manufactured after December 31, 1977 have the pilot screw factory pre-set. Do not adjust unless the carburetor is overhauled.





ENGINE COMPRESSION TEST

Warm up the engine.
Remove the spark plugs.
Insert a compression gauge.
Push the choke knob in.
Open the throttle grip fully.
Crank the engine five revolutions.
Repeat the cylinder test procedure for the other.



NOTE

Watch for compression leakage at the gauge connection.

COMPRESSION: $12.0 \pm 2 \text{ kg/cm}^2$ ($170 \pm 28 \text{ psi}$)

ALLOWABLE DIFFERENCE BETWEEN CYLINDERS:
 4 kg/cm^2 (57 psi)

Low compression can be caused by:

- Valve leakage
- Improper valve adjustment
- Blown cylinder head gasket
- Piston ring wear

High compression can be caused by:

- Carbon deposits in the combustion chamber or on piston head.



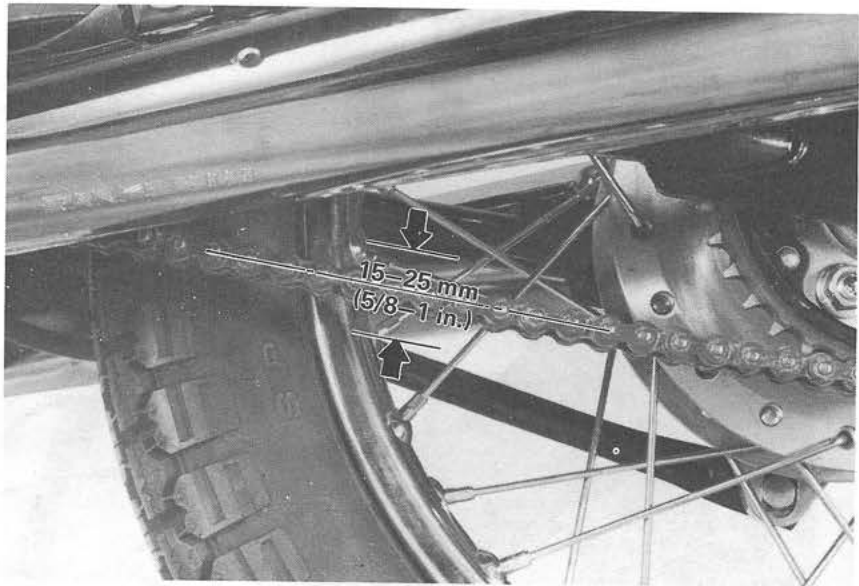
DRIVE CHAIN

NOTE

Perform the following Inspection and Adjustment with the ignition switch "OFF".

Place the vehicle on its side stand and shift the transmission into neutral. Inspect the drive chain free play at midway between sprockets on the lower chain run.

FREE PLAY: 15–25 mm (5/8–1 in.)



Adjust as follows:

Remove the rear axle nut cotter pin and loosen the rear axle nut.

Loosen the lock nuts and equally turn the adjuster bolts on both sides.

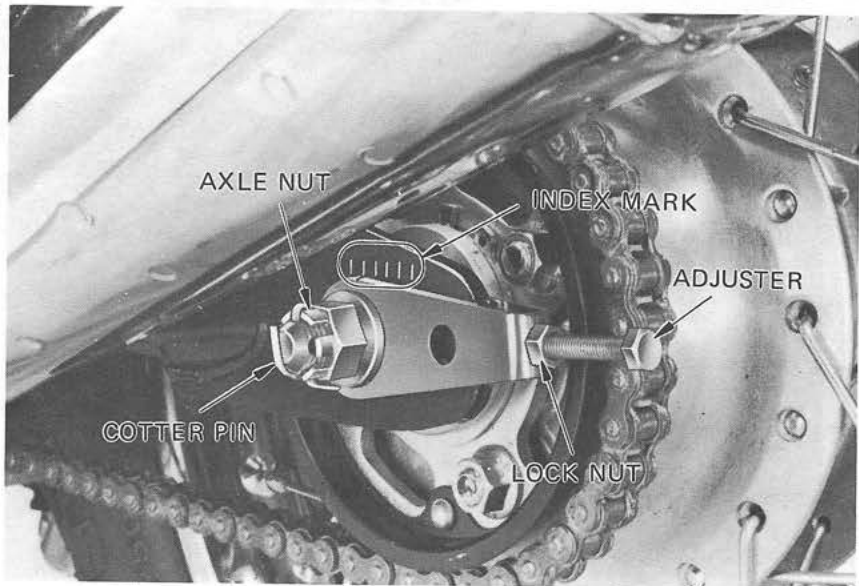
Make sure that the index marks on both sides align.

Tighten the axle nut and install a new cotter pin.

REAR AXLE NUT TORQUE:

4.0–5.0 kg-m (25.9–36.2 ft-lb.)

Tighten lock nuts on the both adjusters.



• CLEANING/LUBRICATION

When the drive chain becomes extremely dirty, it should be removed and cleaned prior to lubrication.

Remove the master link retaining clip with pliers.

NOTE

Do not bend or twist the clip.

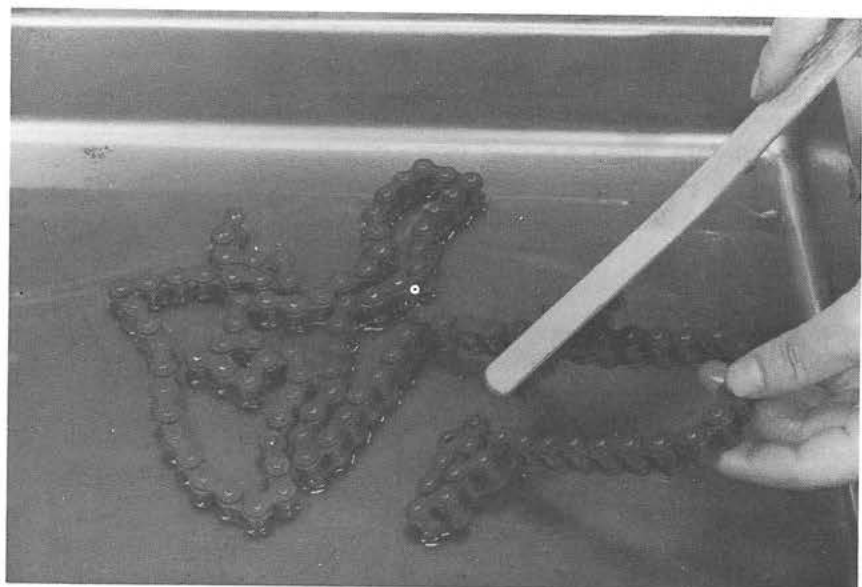
Remove the master link. Remove the drive chain. Clean the drive chain with non-flammable or high flash point solvent brush and allow to dry.

Inspect the drive chain for possible wear or damage. Replace any chain that is damaged or excessively worn.

Inspect the sprocket teeth for excessive wear or damage. Replace if necessary.

NOTE

Never install a new drive chain on worn sprockets or a worn chain on new sprockets. Both chain and sprockets must be in good condition, or the new replacement chain or sprockets will wear rapidly.





Lubricate the drive chain. Saturate each chain link joint.

NOTE

Commercial aerosol type drive chain lubricants are recommended.*

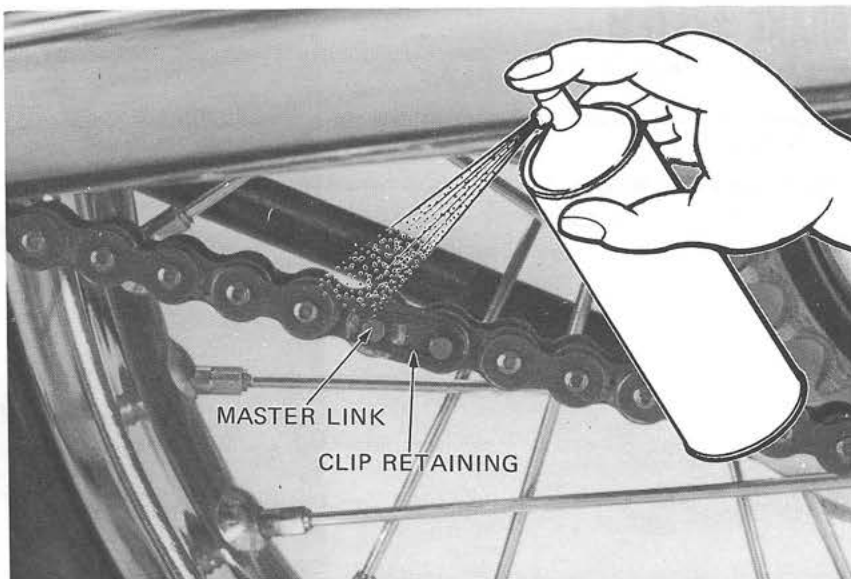
Install the drive chain.

Install the master link.

Install the master link retaining clip so that the closed end faces the direction of forward wheel rotation.

Master links are reusable, if they remain in excellent condition, but it is recommended that a new master link be installed whenever the drive chain is reassembled.

Adjust the drive chain (Page 3-10).



BATTERY

Remove the right side cover.

Inspect the battery fluid level.

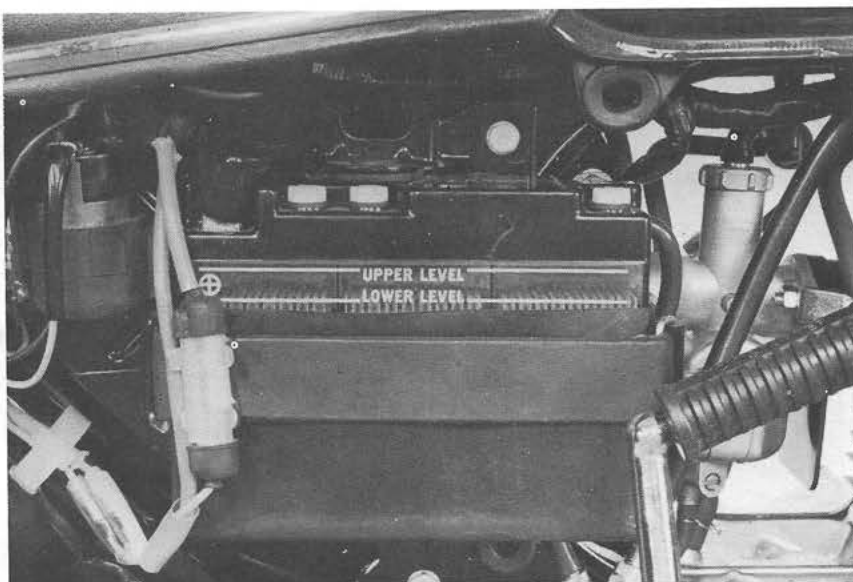
When the fluid level nears the lower level, refill with distilled water to the upper level.

NOTE

Add only distilled water. Tap water will shorten the service life of the battery.

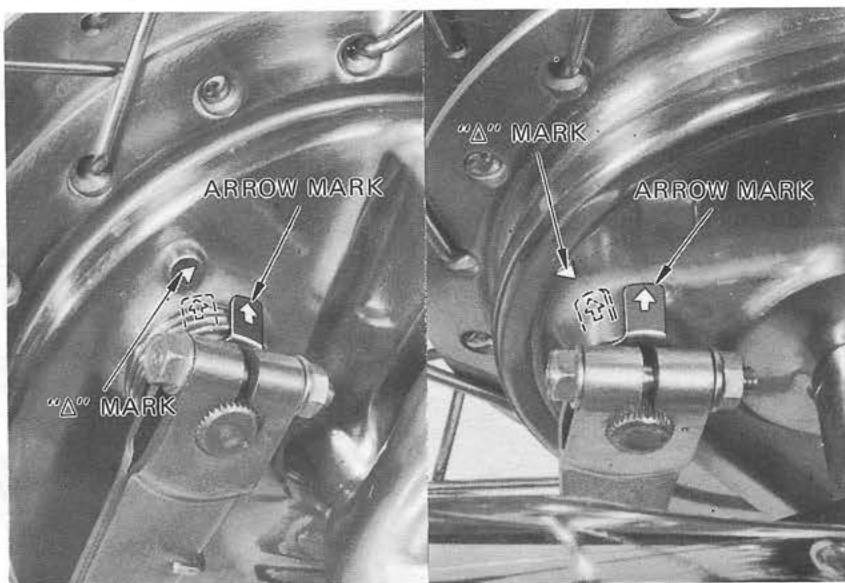
WARNING

The battery electrolyte contains sulphuric acid. Protect your eyes, skin, and clothing. In case of contact, flush thoroughly with water and call a doctor if your eyes were exposed.



BRAKE SHOE WEAR

Replace the brake shoes if the arrow mark on the indicator plate aligns with the "Δ" mark of the brake panel when the brake is applied.





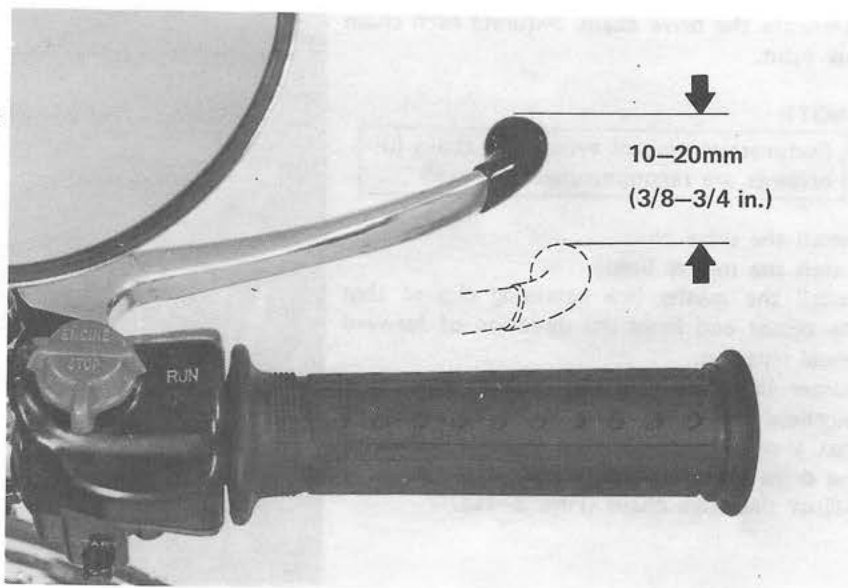
BRAKE SYSTEM

• FRONT BRAKE FREE PLAY

Measure the front brake free play at the tip of the brake lever.

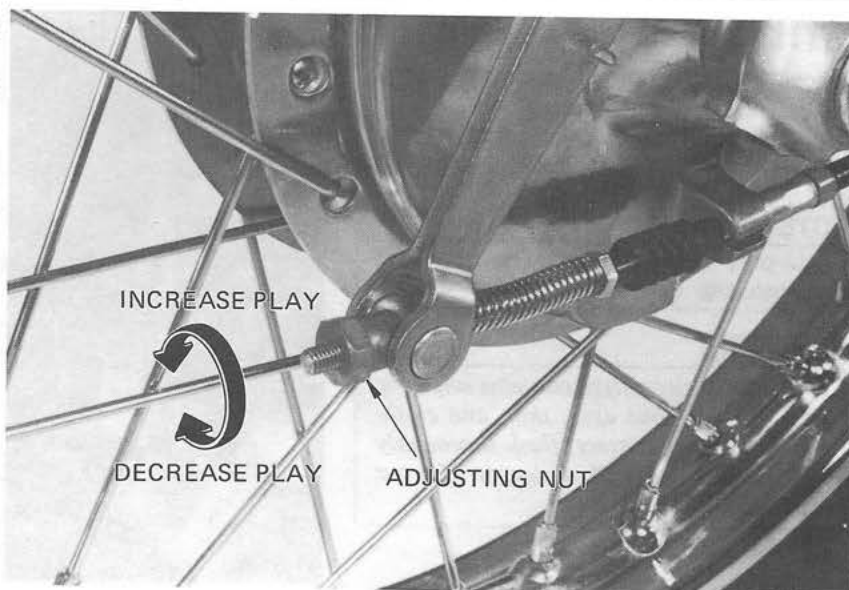
BRAKE LEVER FREE PLAY:

10–20 mm (3/8–3/4 in.)



Major adjustments are performed with the lower adjuster.

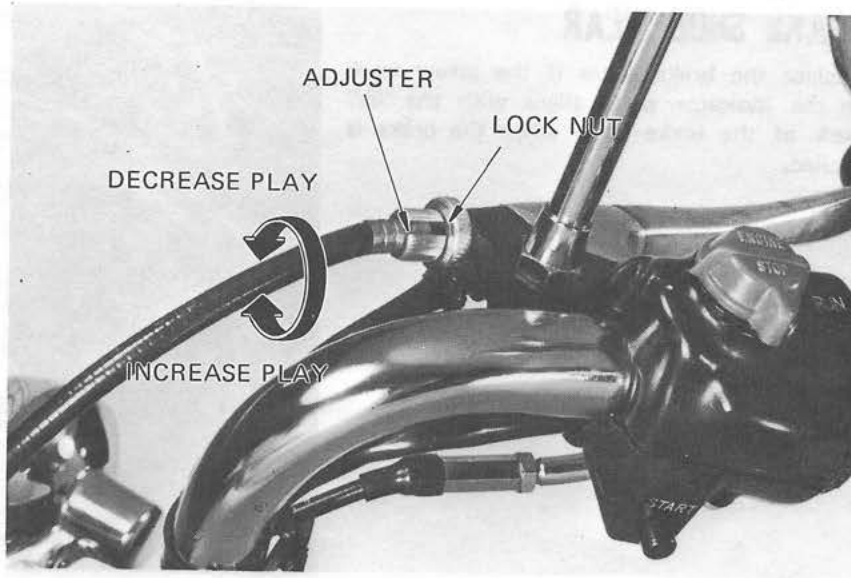
Turn the adjuster to obtain the specified free play.



Perform minor adjustments with the upper adjuster.

Loosen the lock nut and turn the adjuster to obtain the specified free play.

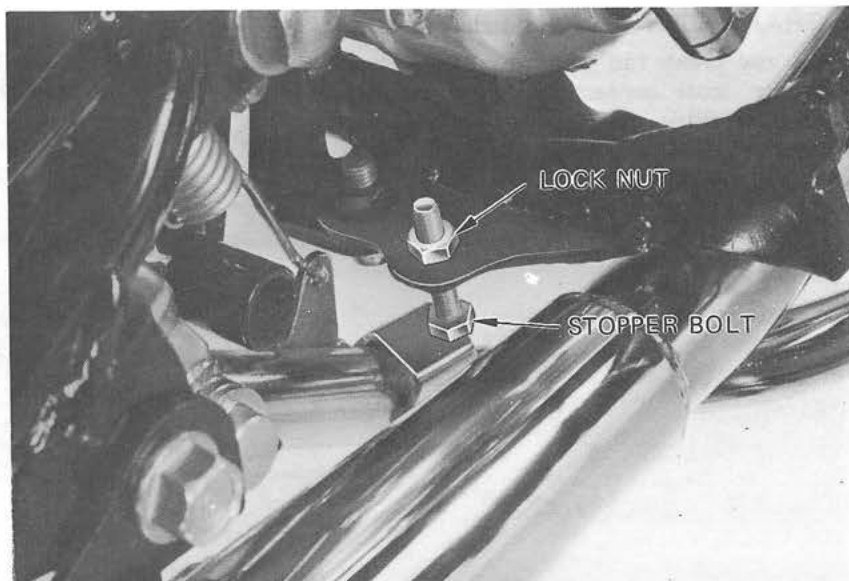
Tighten the lock nut.





● BRAKE PEDAL HEIGHT

Loosen the lock nut and adjust the pedal height with the stopper bolt.
Tighten the lock nut securely.



● BRAKE PEDAL FREE PLAY

NOTE

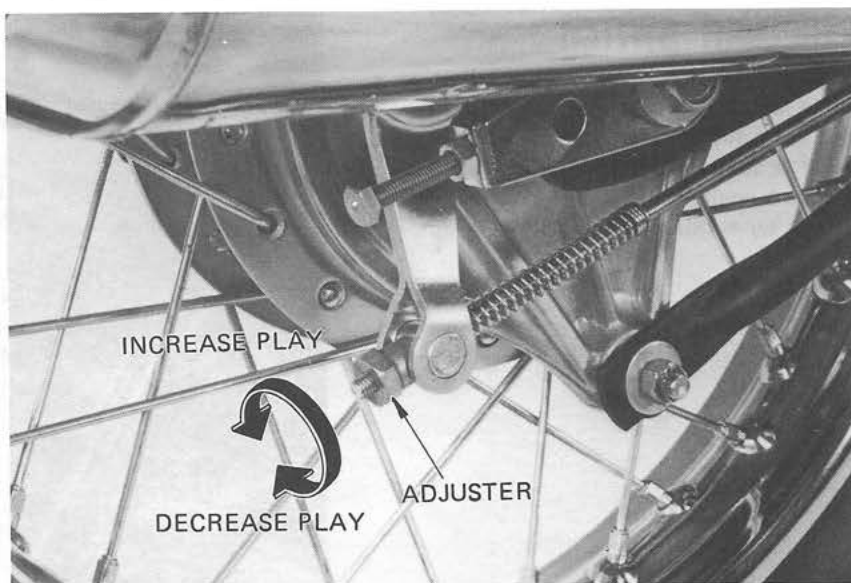
Adjust the rear brake pedal free play after adjusting brake pedal height.

Measure free play before the brake starts to engage.

REAR BRAKE FREE PLAY:
20–30 mm (3/4–1-1/4 in.)

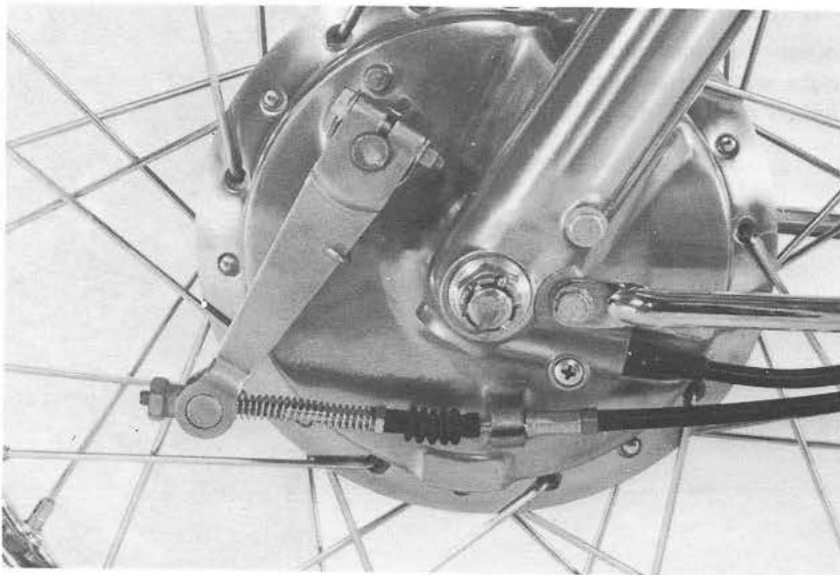


Turn the rear brake adjusting nut, if adjusting is necessary.

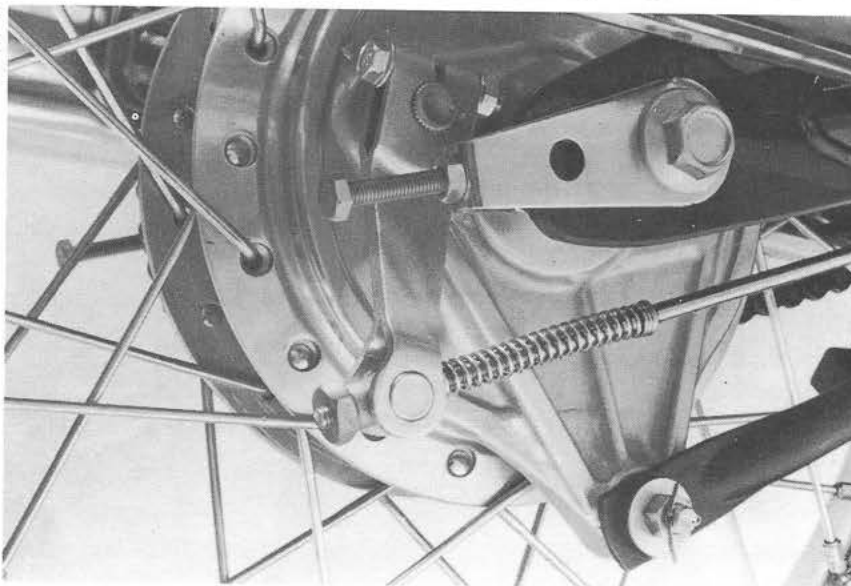


**• BRAKE LINKAGE INSPECTION**

Check the brake rod/cable and brake lever/pedal for loose connections, excessive play, bending or other damage. Replace or repair if necessary.



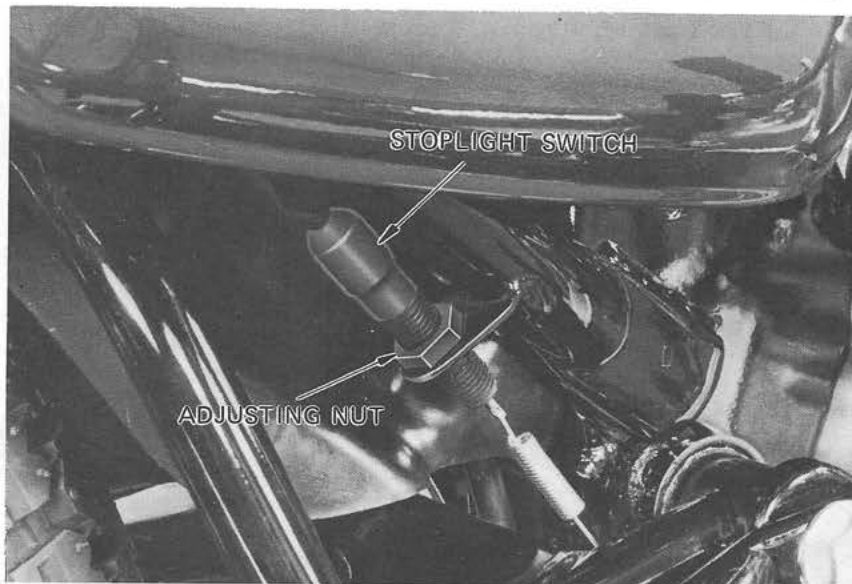
Inspect the brake and stopper arms for loose connections or damage. Check the cotter pin is installed properly.

**STOPLIGHT SWITCH**

Perform this adjustment after adjusting rear brake pedal free play and height.

The stoplight should come on when the brake pedal is depressed 20 mm (3/4 in.) from the standard position.

Adjust by turning switch adjusting nut.





HEADLIGHT AIM

Perform vertical adjustment by loosening both headlight case mounting bolts.

Horizontal adjustment is made by turning the adjusting screw on the headlight rim. Turn the adjusting screw clockwise to direct beam toward right side of rider.

NOTE

Adjust the headlight beam as specified by local laws and regulations.

WARNING

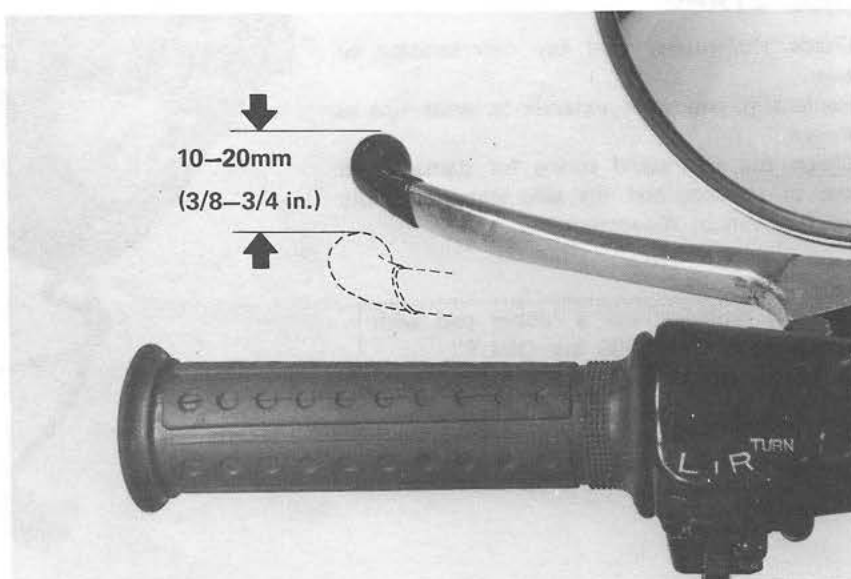
An improperly adjusted headlight may blind oncoming drivers, or it may fail to light the road for a safe distance.



CLUTCH FREE PLAY

Measure the clutch free play at the tip of the clutch lever.

CLUTCH FREE PLAY: 10–20mm
(3/8–3/4 in.)



Major adjustments are made at the lower adjuster.

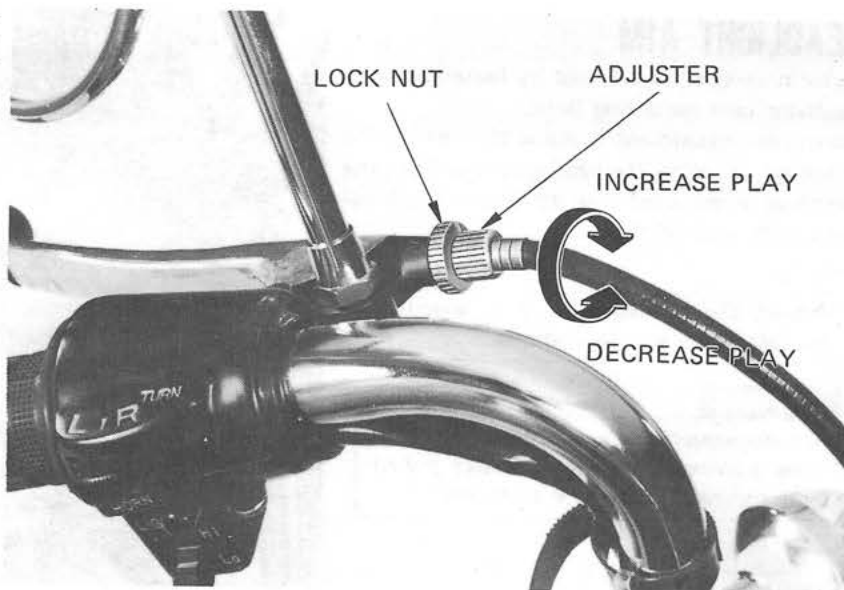
Loosen the lock nut and turn adjuster.





Minor adjustments are made at the upper adjuster by loosening the lock nut and turning adjuster.

Recheck the clutch operation.



SIDE STAND

Check the rubber pad for deterioration or wear.

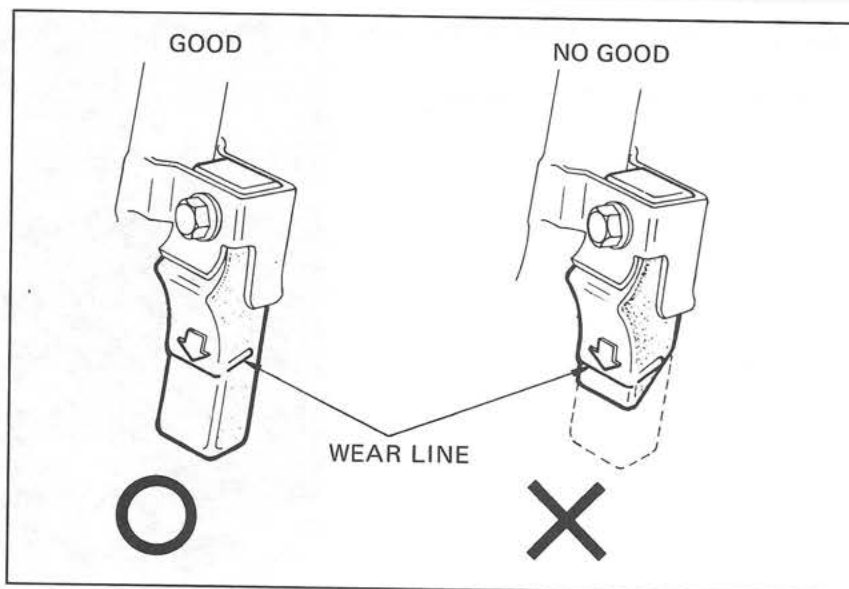
Replace if any wear extends to wear line as shown.

Check the side stand spring for damage and loss of tension, and the side stand assembly for freedom of movement.

NOTE

When replacing use a rubber pad with the mark "Over 260 lbs. ONLY".

Spring tension is correct if the measurements fall within 2–3 kg (4.4–6.6 lb.) when pulling the side stand lower end using a spring scale.





SUSPENSION

• FRONT

Check the action of the front forks by compressing them several times.

Check the entire fork assembly for signs of leaks, or damage. Replace any components which are unrepairable.

Torque all bolts.

Check the front wheel for trueness.



• REAR

Place the motorcycle on a support to raise the rear wheel.

Move the rear wheel sideways with force to see if the swingarm bushings are worn. Replace excessively worn.

Check the entire suspension assembly to see if it is securely mounted, damaged or distorted. Check the rear wheel for trueness.



WHEELS / SPOKES

• TIRE PRESSURE

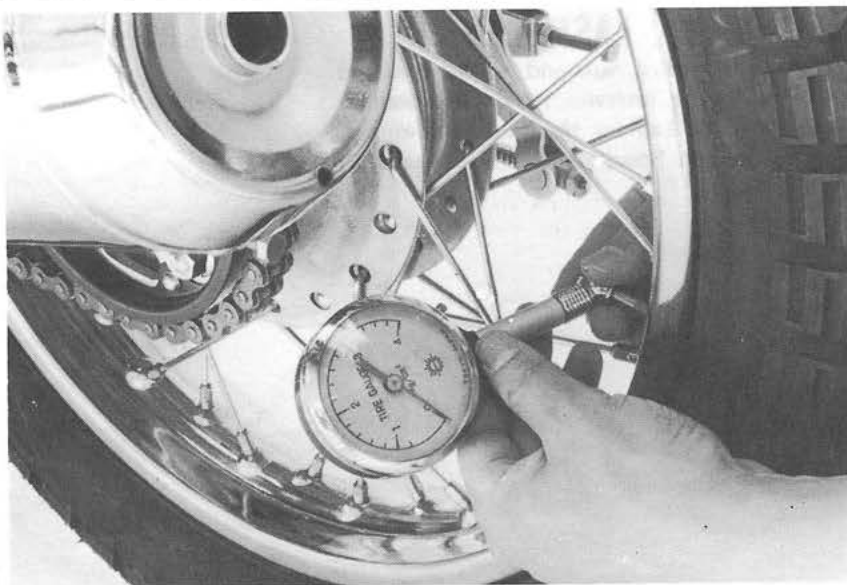
NOTE

Tire pressure should be checked when the tires are COLD.

Check the tires for cuts, imbedded nails, or other sharp objects.

Recommended tire pressure and tire size:

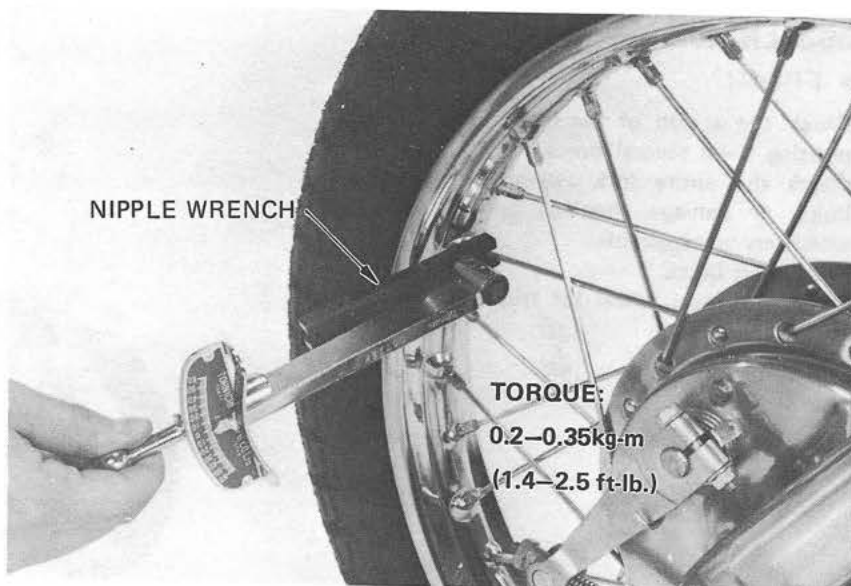
	LOAD	
Cold tire pressures kg/cm ² (psi)	Up to 90 kg (200 lbs.) load	Front: 1.75 (25) Rear: 2.0 (28)
	Up to vehicle capacity load	Front: 1.75 (25) Rear: 2.25 (32)
Vehicle capacity load limit	135 kg (300 lbs.)	
Tire size	Front: 3.00-17-4PR Rear: 3.50-16-4PR	



**• WHEEL SPOKE RETIGHTENING**

Retighten the wheel spokes periodically.

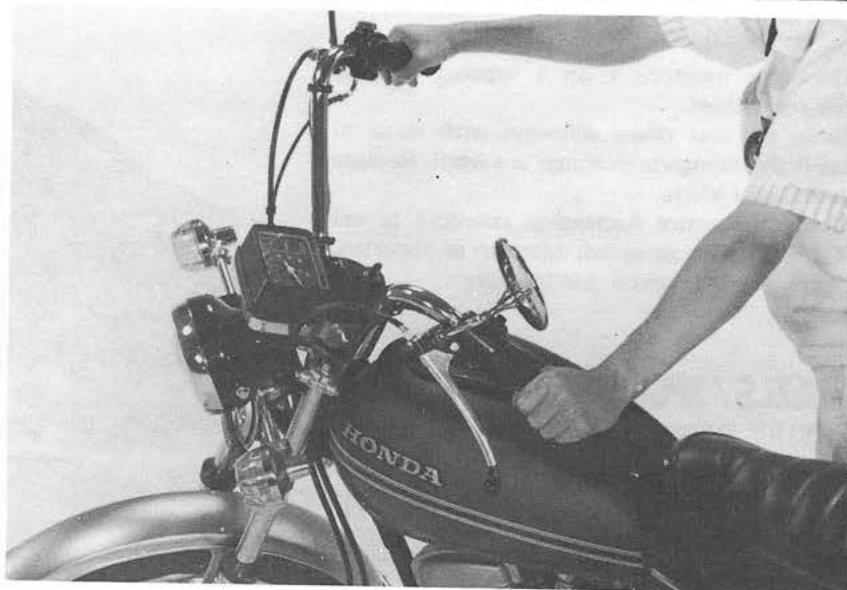
TIGHTENING TORQUE: 0.2–0.35 kg-m
(1.4–2.5 ft-lb.)

**STEERING HEAD BEARING****NOTE**

Check that the control cables do not interfere with the rotation of the handlebars.

Raise the front wheel off the ground.

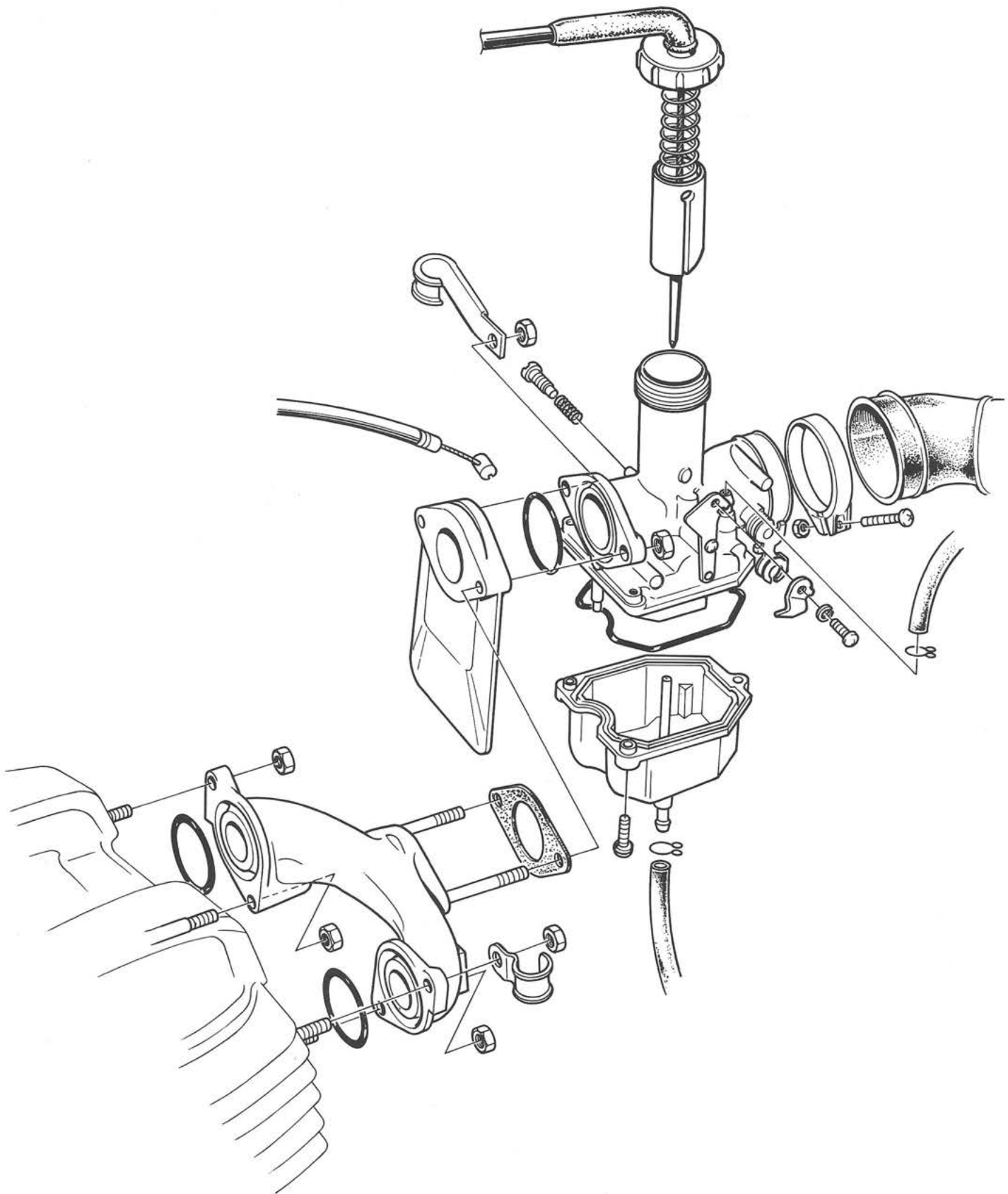
Check that the handlebar rotates freely. If the handlebar moves unevenly, binds or has vertical movement, adjust the steering head bearing by turning the steering head adjusting nut with a pin spanner.

**NUTS. BOLTS. FASTENERS**

Retighten the bolts, nuts and fasteners related frame at regular intervals shown the Maintenance Schedule and for the tightening torque, refer to Torque Specification (see page 1-6).



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SERVICE INFORMATION	4-1
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FLOAT, FLOAT VALVE AND JETS	4-4
FLOAT LEVEL ADJUSTMENT	4-6
THROTTLE VALVE ASSEMBLY	4-6
CARBURETOR INSTALLATION	4-7
ADJUSTMENT	4-7

SERVICE INFORMATION

● WORKING PRACTICE

Use caution when working with gasoline. Always work in a well-ventilated area and away from sparks or open flames. When disassembling fuel system parts, note the locations of the O-rings. Replace them with new ones on re-assembly. The float bowls have drain plugs that can be removed to drain residual gasoline.

● TOOL

Common Tool

Float gauge Tool No. 07401-0010000

● SPECIFICATIONS

ITEM	DESCRIPTION
Venturi dia.	22 mm (0.87 in.)
Setting mark	PD98A
Float level	14.5 mm (0.57 in.)
Idle speed	1,200 ± 100 rpm
Throttle grip free play	2 – 6 mm (1/8 – 1/4 in.)
Main jet	#105



TROUBLESHOOTING

Engine Cranks But Won't Start

1. No fuel in tank
2. No fuel to cylinders
3. Too much fuel getting to cylinders
4. No spark at plugs (ignition malfunction)
5. Air cleaner clogged
6. Improper choke operation
7. Improper throttle operation

Engine Idles Roughly, Stalls, or Runs Poorly

1. Idle speed incorrect
2. Ignition malfunction
3. Low compression
4. Rich mixture
5. Lean mixture
6. Air cleaner clogged
7. Air leaking into manifold
8. Fuel contaminated
9. Carburetor malfunction

Lean Mixture

1. Carburetor fuel jets clogged
2. Fuel cap vent blocked
3. Fuel filter clogged
4. Fuel line kinked or restricted
5. Float valve faulty
6. Float level too low
7. Air vent tube clogged
8. Intake air leak
9. Pilot screw misadjusted

Rich Mixture

1. Choke stuck closed
2. Float valve faulty
3. Float level too high
4. Carburetor air jets clogged
5. Pilot screw misadjusted
6. Air cleaner clogged

Misfiring during Acceleration

1. Incorrect carburetor air/fuel mixture

Backfiring

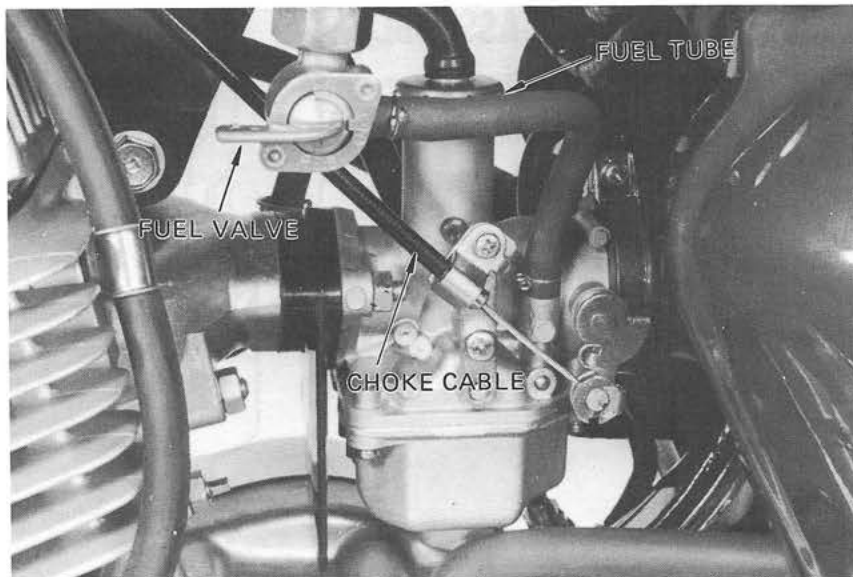
1. Incorrect carburetor air/fuel mixture
2. Carburetor malfunction



CARBURETOR REMOVAL

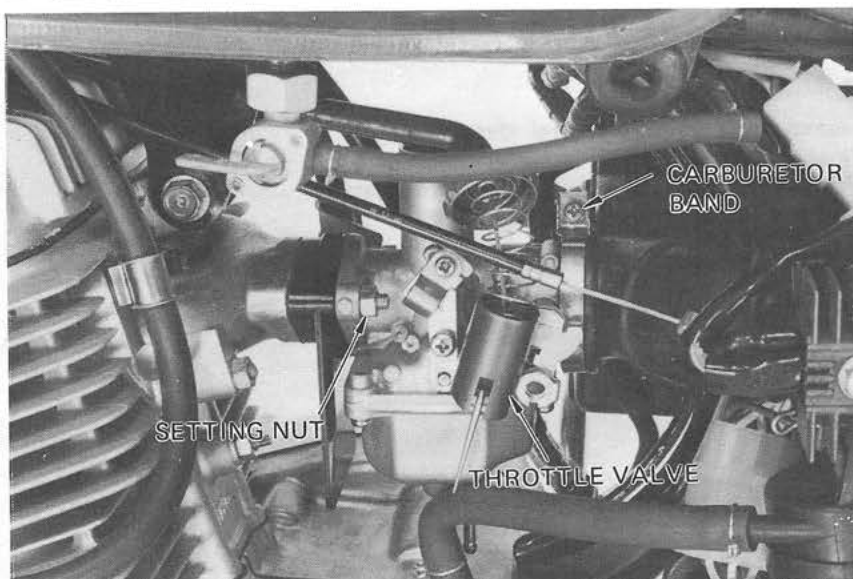
Turn the fuel valve "OFF" and disconnect the fuel tube.

Remove the choke cable after loosening the screw.



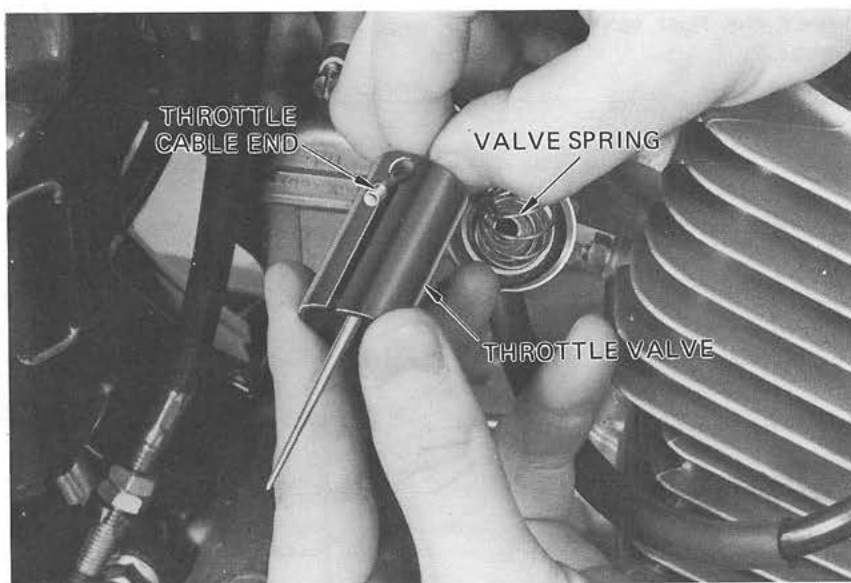
Loosen the screw securing the carburetor band and remove setting nuts.

Unscrew the carburetor top cap, pull the throttle valve out and remove the carburetor.



CARBURETOR TOP DISASSEMBLY

Remove the throttle cable end from the throttle valve groove while depressing the throttle valve spring.

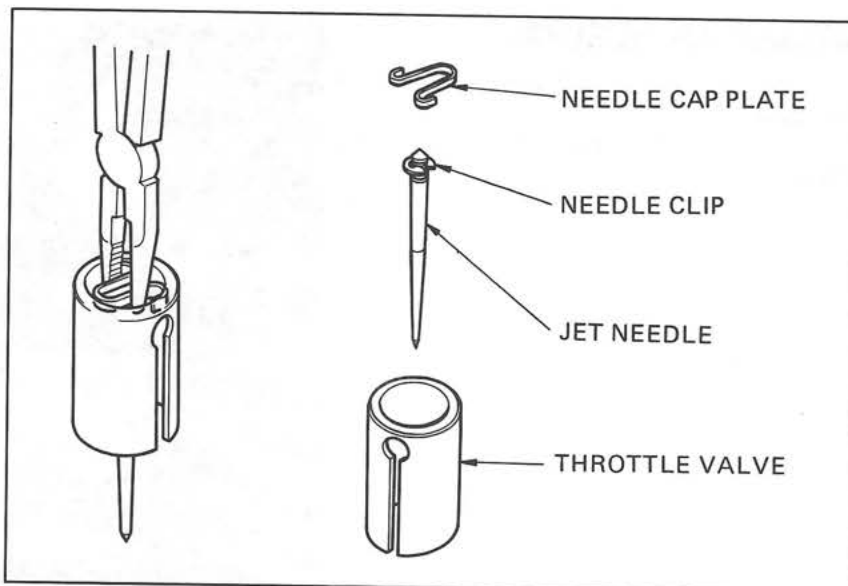




THROTTLE VALVE DISASSEMBLY

Pry off the needle cap plate and remove the needle jet.

Inspect the needle jet and throttle valve surface for dirt, scratch and wear.

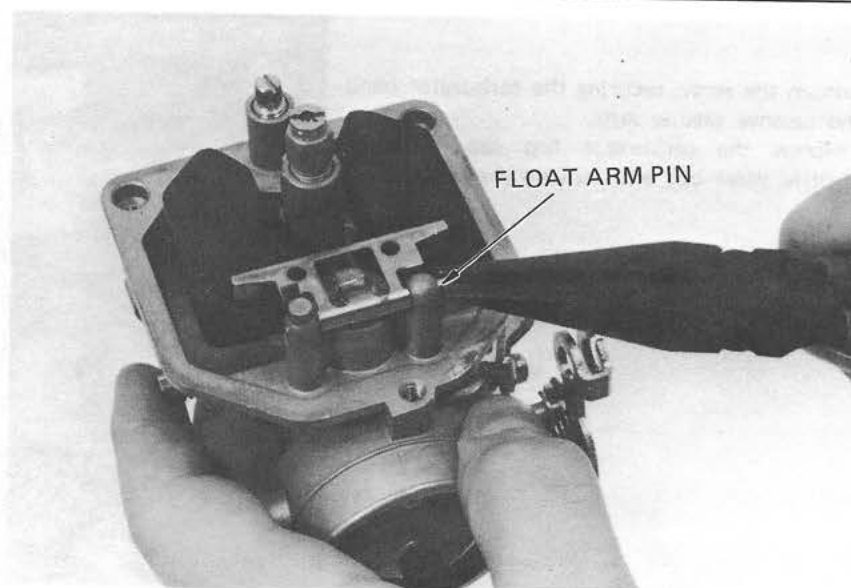


FLOAT, FLOAT VALVE AND JETS

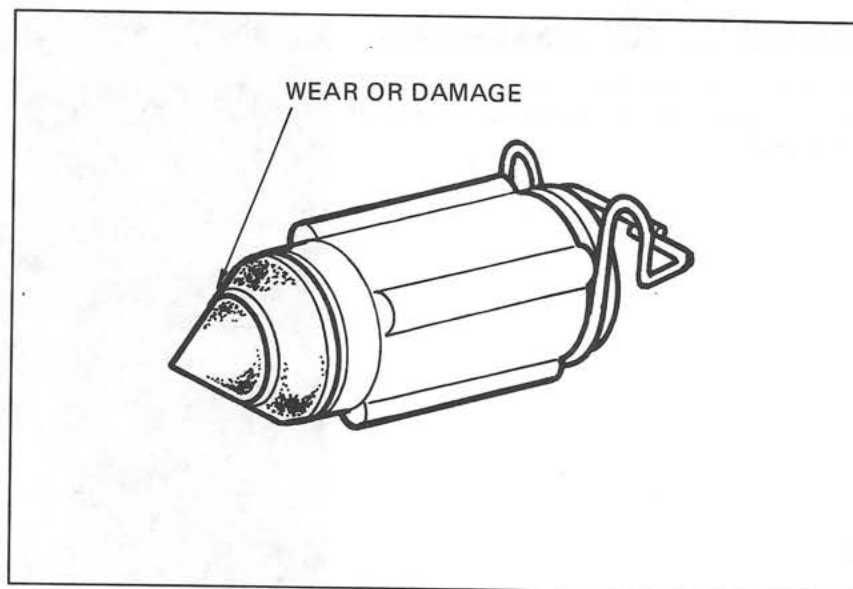
• DISASSEMBLY

Remove the carburetor and disassemble the float chamber.

Pry off the float arm pin with a pair of pliers. Remove the float and float valve.



Inspect the float valve surface for wear or damage.





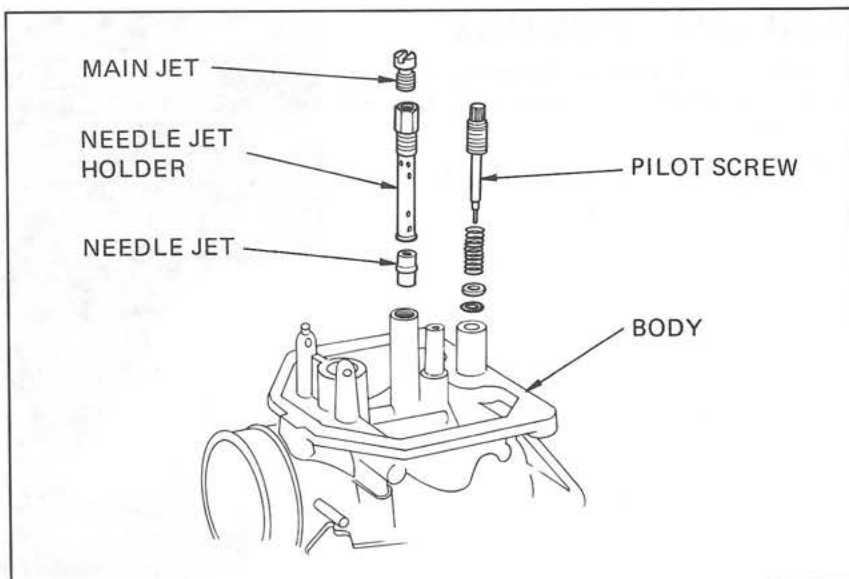
Remove the main jet, the needle jet holder and the needle jet.

NOTE

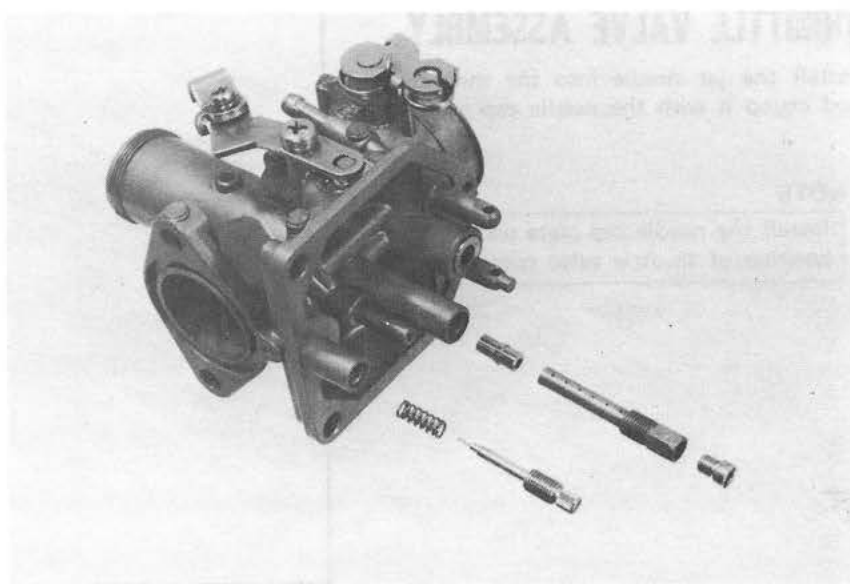
The slow air jet cannot be removed since it is a tight press fit in the carburetor.

Remove the pilot screw.

Pilot screw adjustment, see page 4-8.



Blow open all jets and body opening with compressed air.

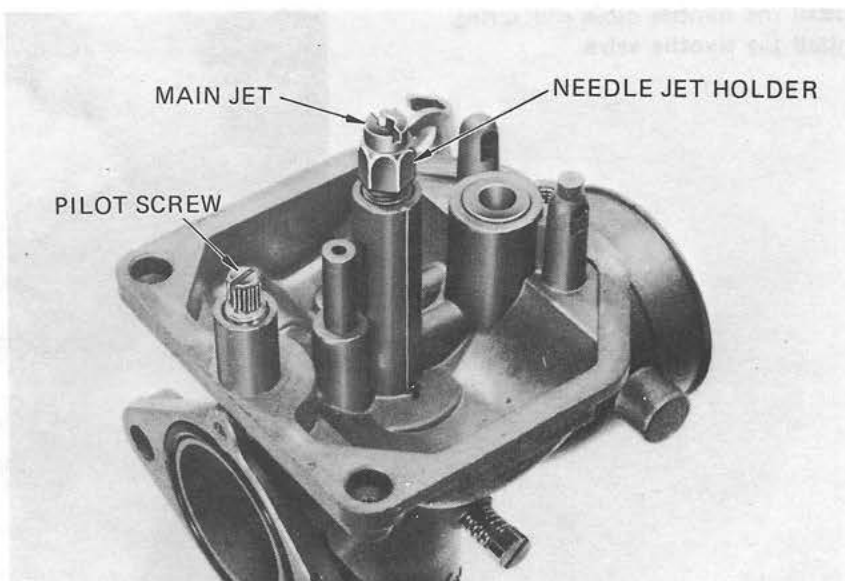


● **ASSEMBLY**

Install the pilot screw, the needle jet holder and the main jet.

NOTE

Do not damage the jets at time of assembly.

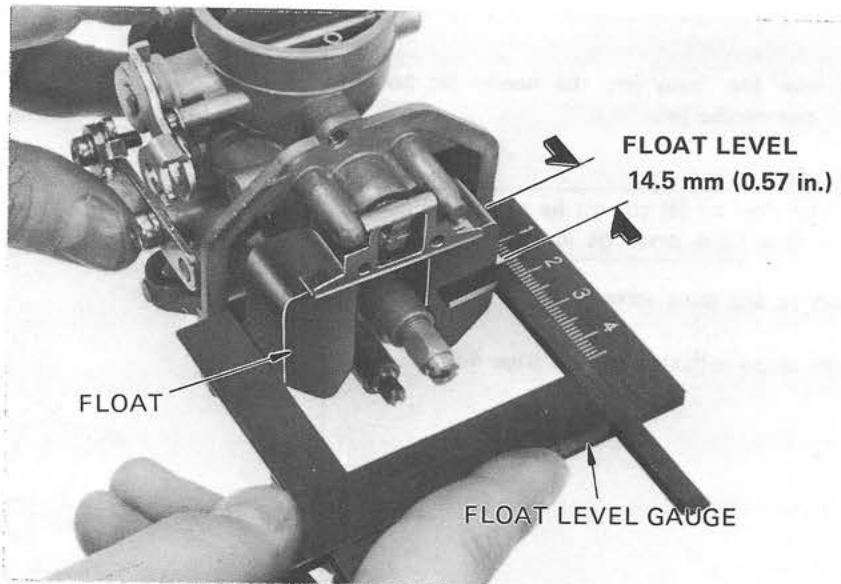




FLOAT LEVEL ADJUSTMENT

To adjust the float level, bend the float arm carefully until the float tip just contacts the float valve.

FLOAT LEVEL: 14.5 mm (0.57 in.)

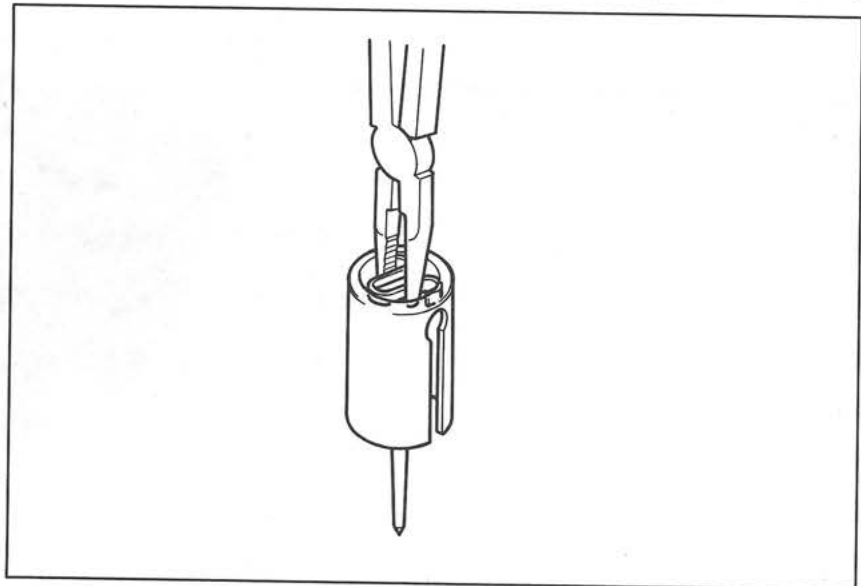


THROTTLE VALVE ASSEMBLY

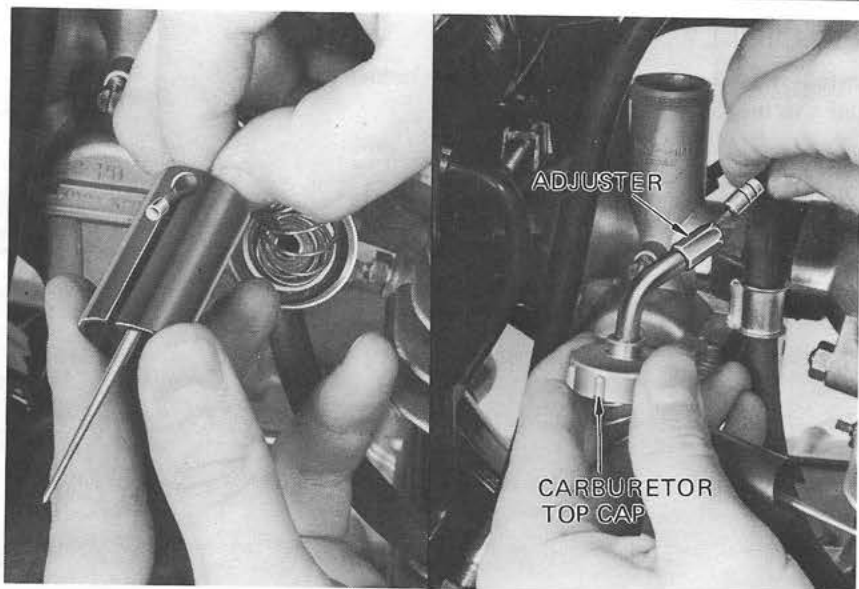
Install the jet needle into the throttle valve and clamp it with the needle cap plate.

NOTE

Install the needle cap plate on the lower position of throttle valve completely.



Install the throttle cable and spring.
Install the throttle valve.





Install throttle valve with the throttle valve groove aligned with the throttle stop screw.

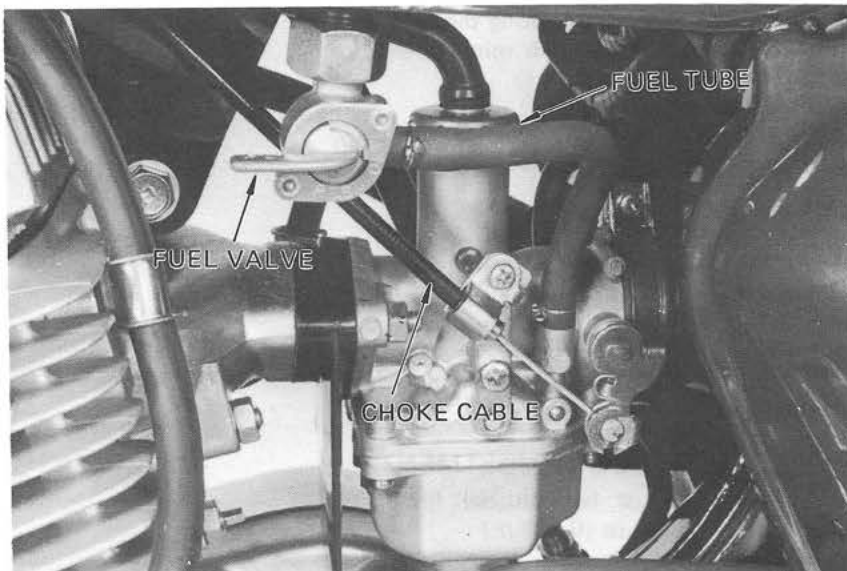


CARBURETOR INSTALLATION

Carburetor installation is the reverse of the removal.

NOTE

- Clamp the choke cable end on the cable setting plate.
- After assembly, perform the following adjustments.
Throttle grip free play (See page 3-7)
Idle speed adjustment (See page 3-8)





ADJUSTMENT

- ADJUST THE IDLE SPEED AFTER ASSEMBLING:

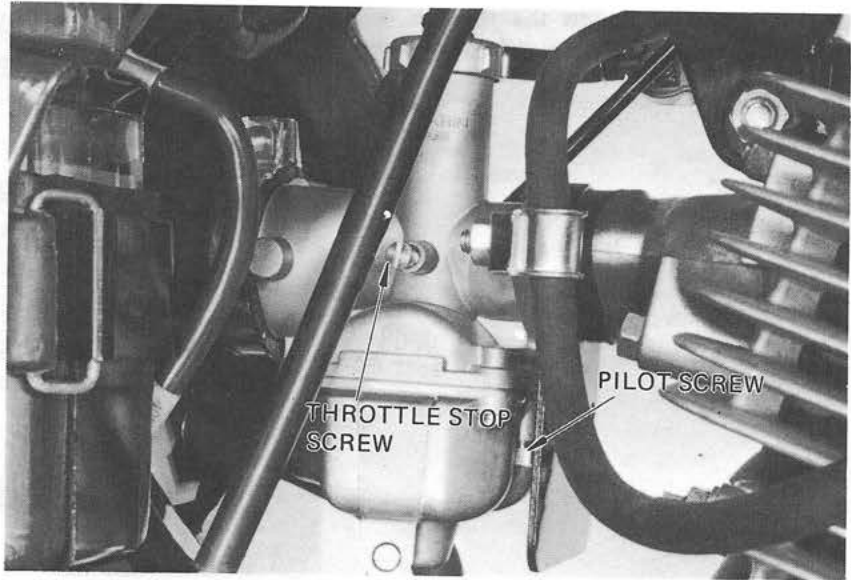
NOTE

The carburetor is factory pre-set and pilot adjustment is not necessary except after overhauling.

Before installing the carburetor, turn the pilot screw **2 turn out** from seated lightly position.

CAUTION

Damage to the pilot screw seat will occur if the pilot screw is tightened against the seat.



Warm up the engine to operating temperature. Stop and go driving for ten minutes should be sufficient.

Attach a tachometer.

Adjust the idle speed with the throttle stop screw.

IDLE SPEED: $1,200 \pm 100$ rpm

Screw the pilot screw in gradually until the engine stops.

Turn the pilot screw 1 turn out from this position.

Start the engine and readjust the idle speed if necessary.

• HIGH ALTITUDE ADJUSTMENT

The carburetor must be adjusted for high altitude riding 2,000 m (6,500 ft.)

STANDARD SETTING:

2,000 m (6,500 ft.) max.

HIGH ALTITUDE SETTING:

1,500 m (5,000 ft.) min.

High altitude carburetor adjustment is done as follows:

1. Turn the pilot screw clockwise **1/4 turn** from the factory pre-set position.
2. Start the engine and adjust the idle speed to **$1,200 \pm 100$ rpm** with the throttle stop screw.

NOTE

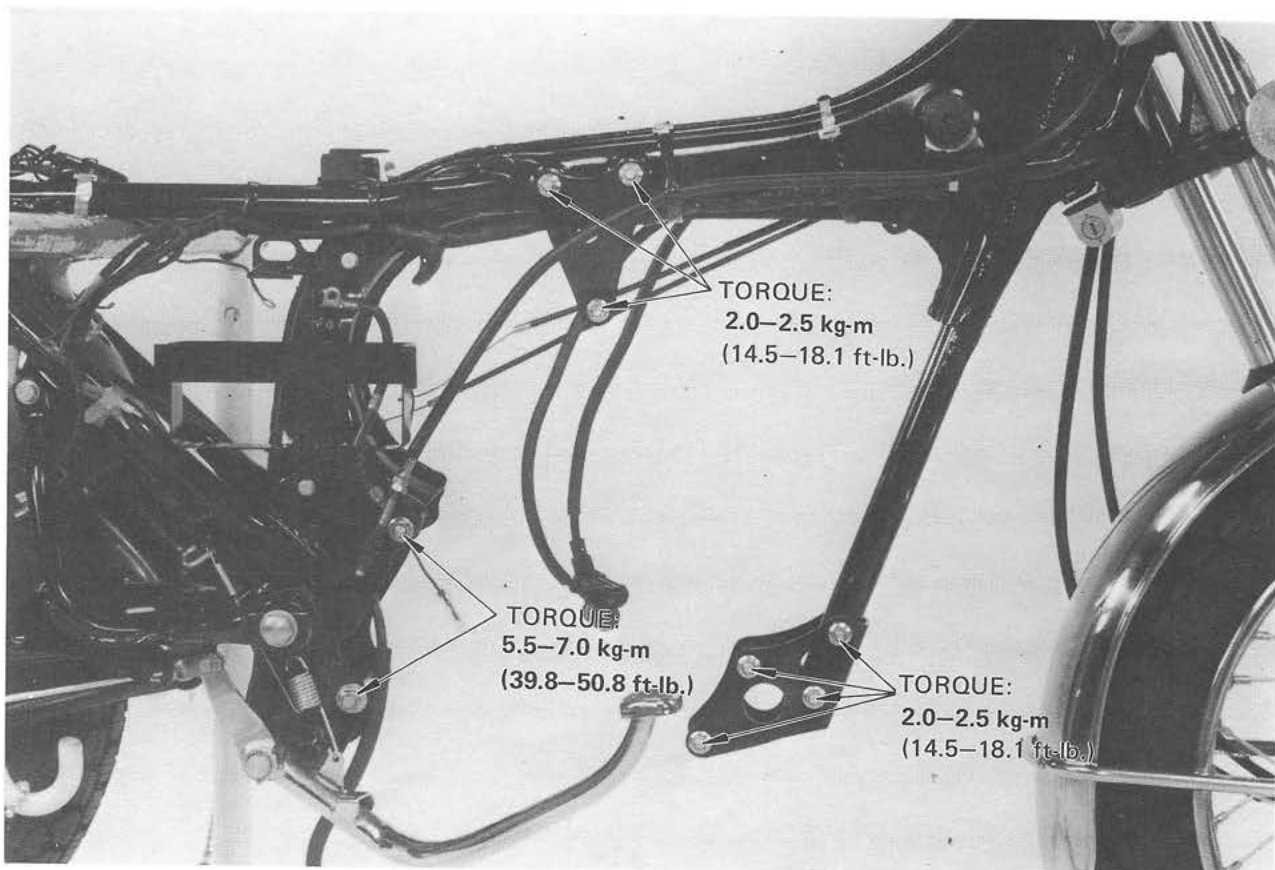
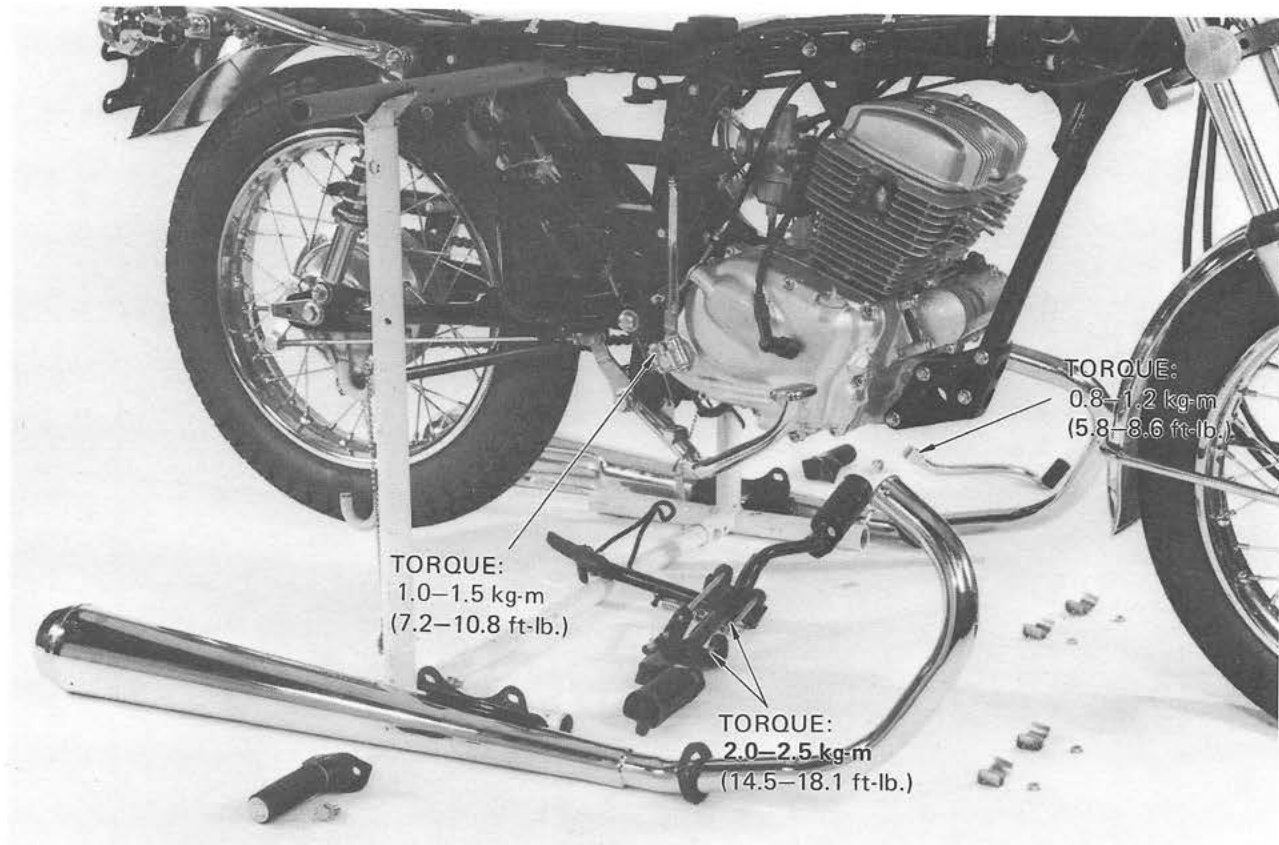
Adjust the idle speed at high altitude to ensure proper high altitude operation.

CAUTION

- Sustained operation at lower altitude than 1,500 m (5,000 ft.) with high altitude setting position, may cause engine overheating and engine damage.
- Return the pilot screw to the factory pre-set position and readjust the idle speed to $1,200 \pm 100$ rpm.



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SERVICE INFORMATION	5-1
ENGINE REMOVAL	5-2
ENGINE INSTALLATION	5-6

SERVICE INFORMATION

• WORKING PRACTICE

A jack or other adjustable support is required to support and maneuver the engine.
The carburetor assy. may be detached to speed engine removal.

Works requiring engine removal:

- Cylinder head and valves.....Section 6
- Cylinder and piston.....Section 7
- Transmission and crankshaft.....Section 10

• SPECIFICATIONS

- Engine weight: 39.8 kg (87.8 lb) at dry
- Oil capacity: 1.5 lit (1.6 U.S. qt.)
1.4 lit (1.5 U.S. qt.) at draining

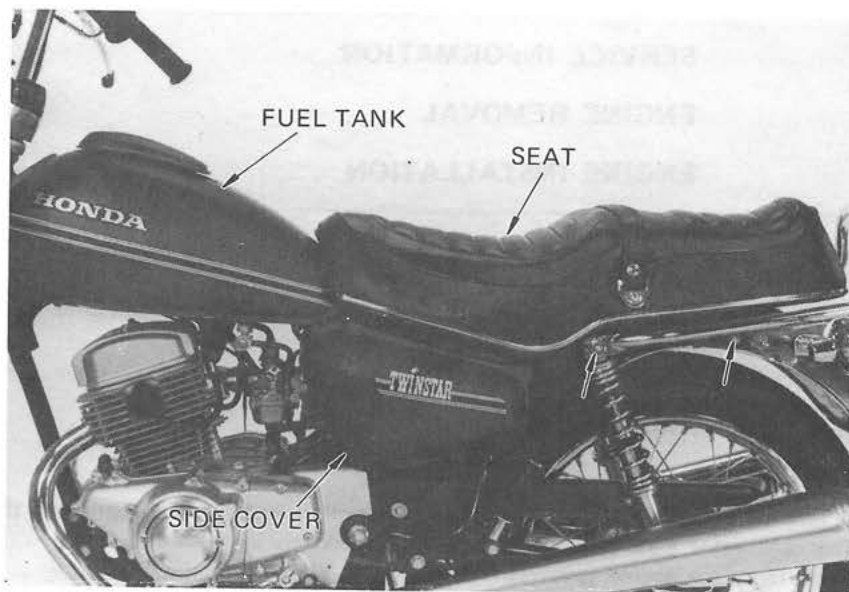
• TORQUES

- Engine hanger
 - 8 mm bolts: 2.0-2.5 kg-m (14.5-18.1 ft-lb.)
 - 10 mm bolts: 5.5-7.0 kg-m (39.8-50.8 ft-lb.)
- Drain plug: 3.0-5.0 kg-m (21.7-36.2 ft-lb.)
- Foot rest bolts: 2.0-2.5 kg-m (14.5-18.1 ft-lb.)
- Kick starter pedal bolt: 1.0-1.5 kg-m (7.2-10.8 ft-lb.)
- Gear shift pedal bolt: 0.8-1.2 kg-m (5.8-9.7 ft-lb.)



ENGINE REMOVAL

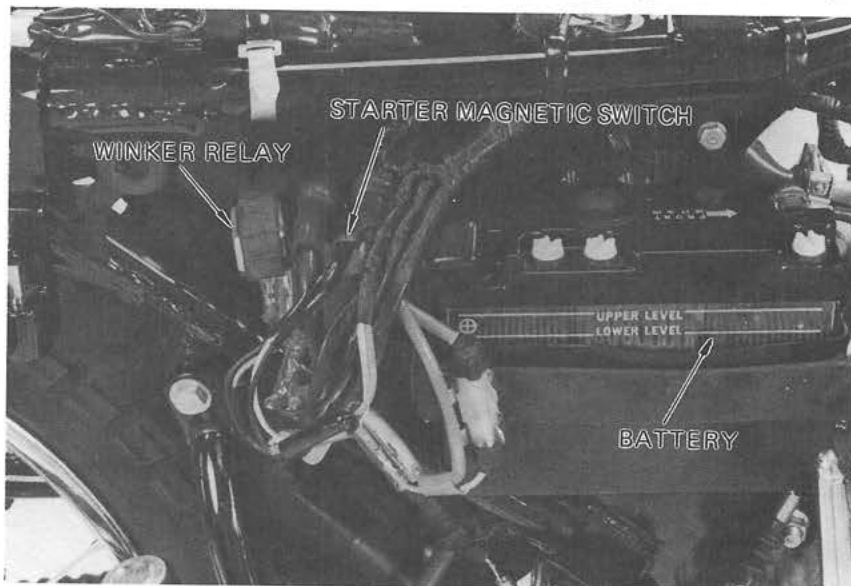
Remove the drain plug to drain the engine oil.
Remove the right and left side covers.
Remove the seat and fuel tank.



Remove the right and left mufflers.
Disconnect the breather tube and remove the plug cap.



Remove the starter magnetic switch and the turn signal relay.
Disconnect the stop switch wires and the battery cords.
Remove the battery.

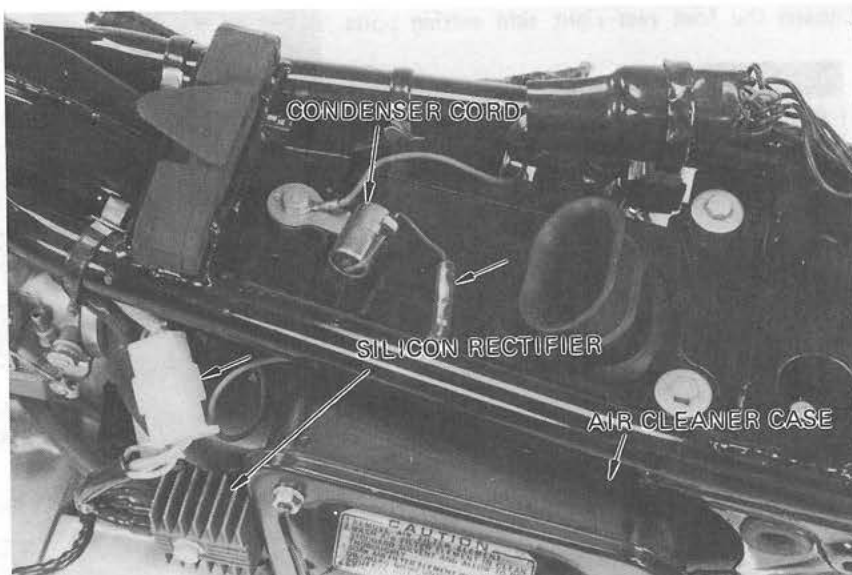




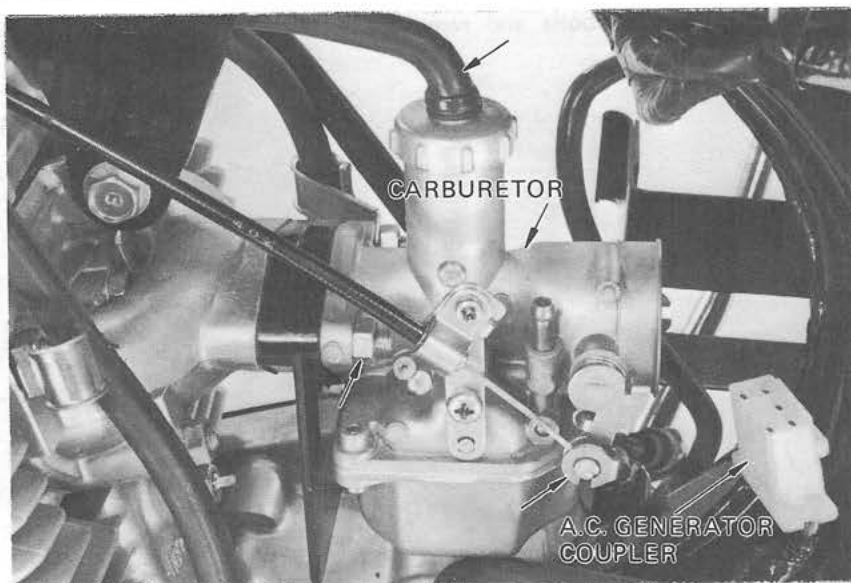
Disconnect the clutch cable at the lower adjuster.
Disconnect the starting motor cable at the starting motor.



Disconnect the coupler of the silicon rectifier and condenser cord.
Loosen the air cleaner tube band and remove the air cleaner case within air cleaner element.

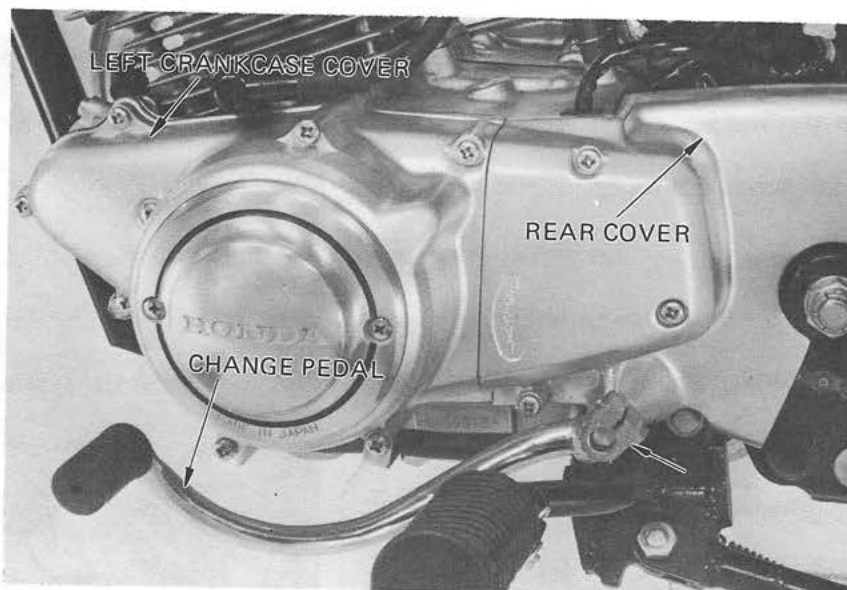


Disconnect the A.C. generator coupler.
Remove the carburetor. (See page 4-3)





Remove the gear change pedal, the left crankcase and the rear covers.



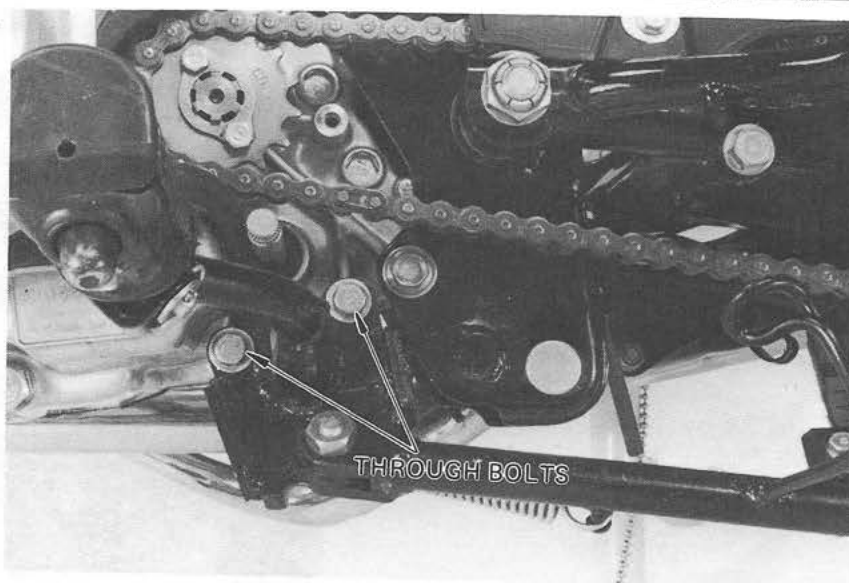
Loosen the foot rest right side setting bolts.

WARNING

Place the frame body on the rigid rack before removing the foot rests.

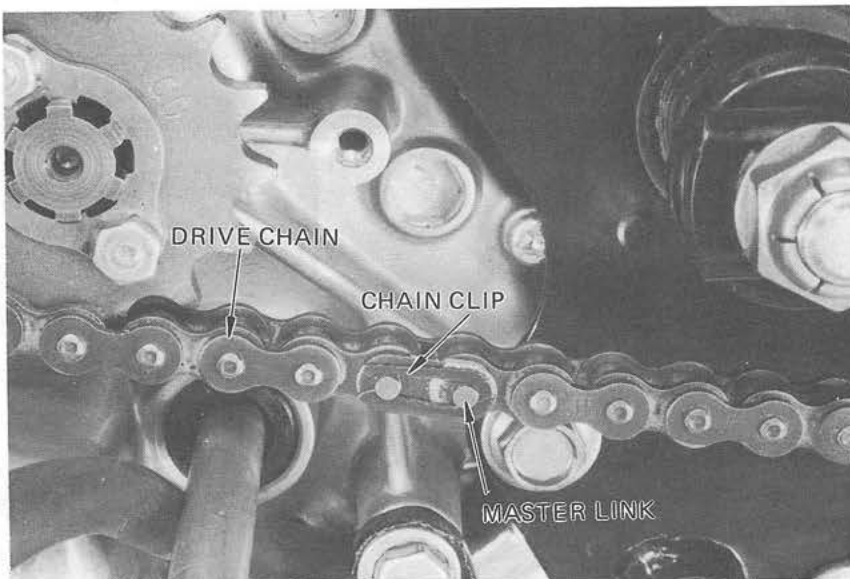


Remove the through bolts and remove the foot rests.



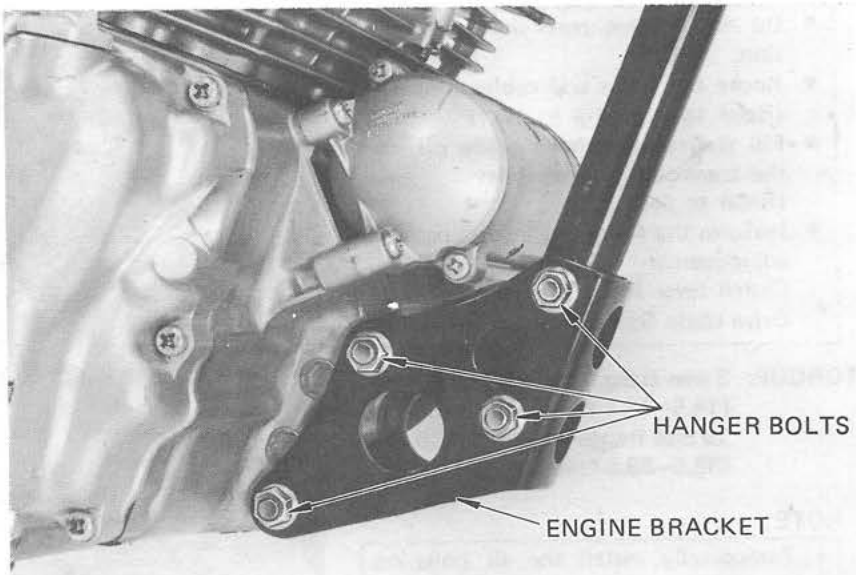


Pry off the drive chain clip and remove the master link.
Remove the drive chain.

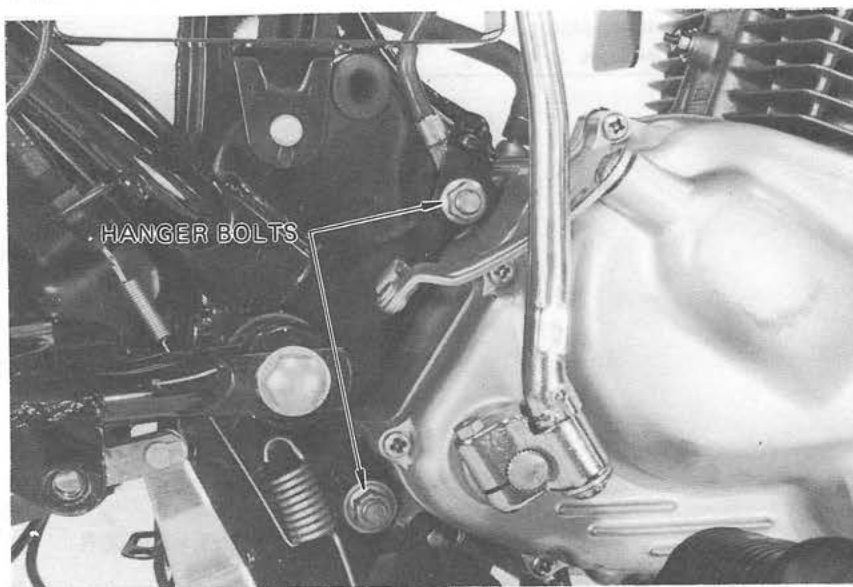


Support the engine with a jack or other adjustable support under the engine.

Remove the four hanger bolts and front engine bracket.



Remove two 10 mm hanger bolts on the frame body.





Remove the engine upper hanger bolt and remove the engine.



INSTALLATION

The installation sequence is the reverse of removal.

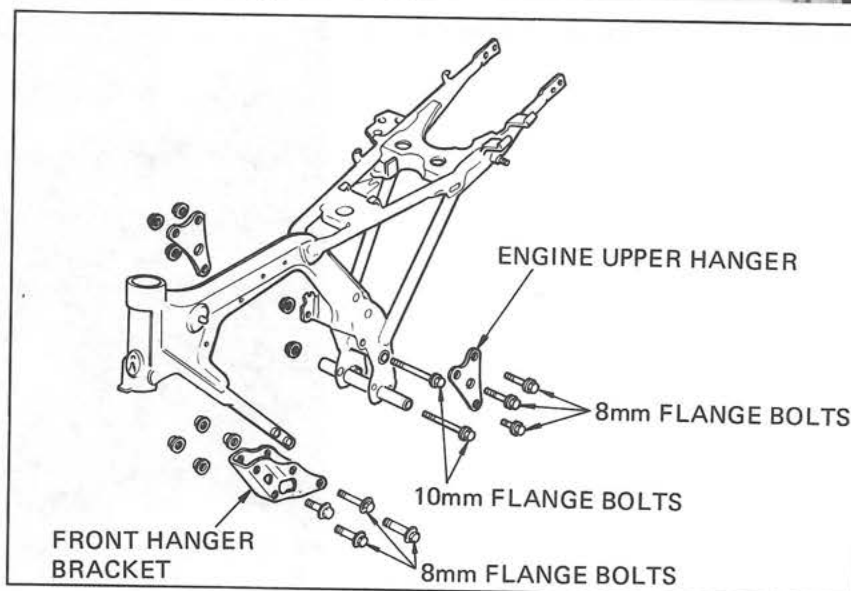
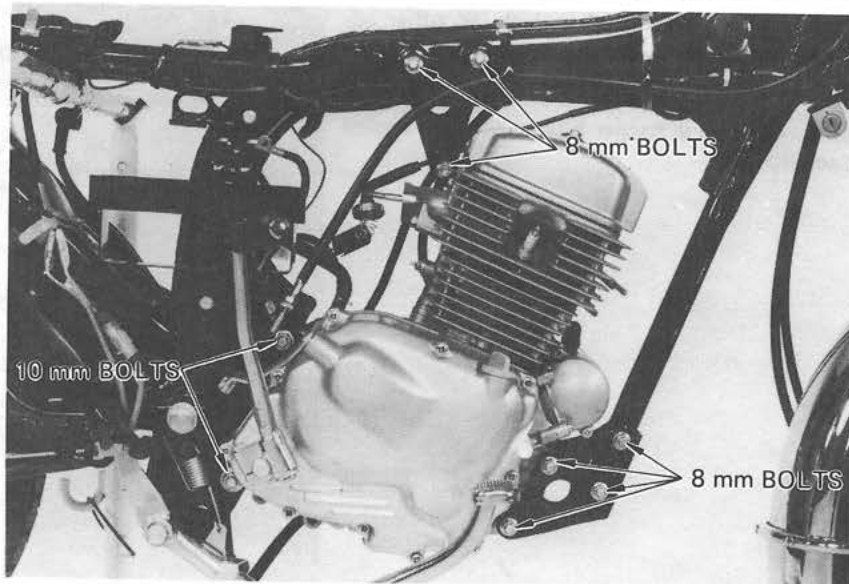
NOTE

- Do not damage parts during installation.
- Route the wires and cables properly. (Refer to page 1-9 to 1-11)
- Fill the recommended grade oil into the crankcase to proper level. (Refer to page 2-2)
- Perform the following inspections and adjustments:
Clutch lever free play (page 3-15)
Drive chain free play (page 3-10)

TORQUE: 8 mm frange bolts 2.0–2.5 kg-m (14.5–18.1 ft-lb.)
10 mm frange bolts 5.5–7.0 kg-m (39.8–50.8 ft-lb.)

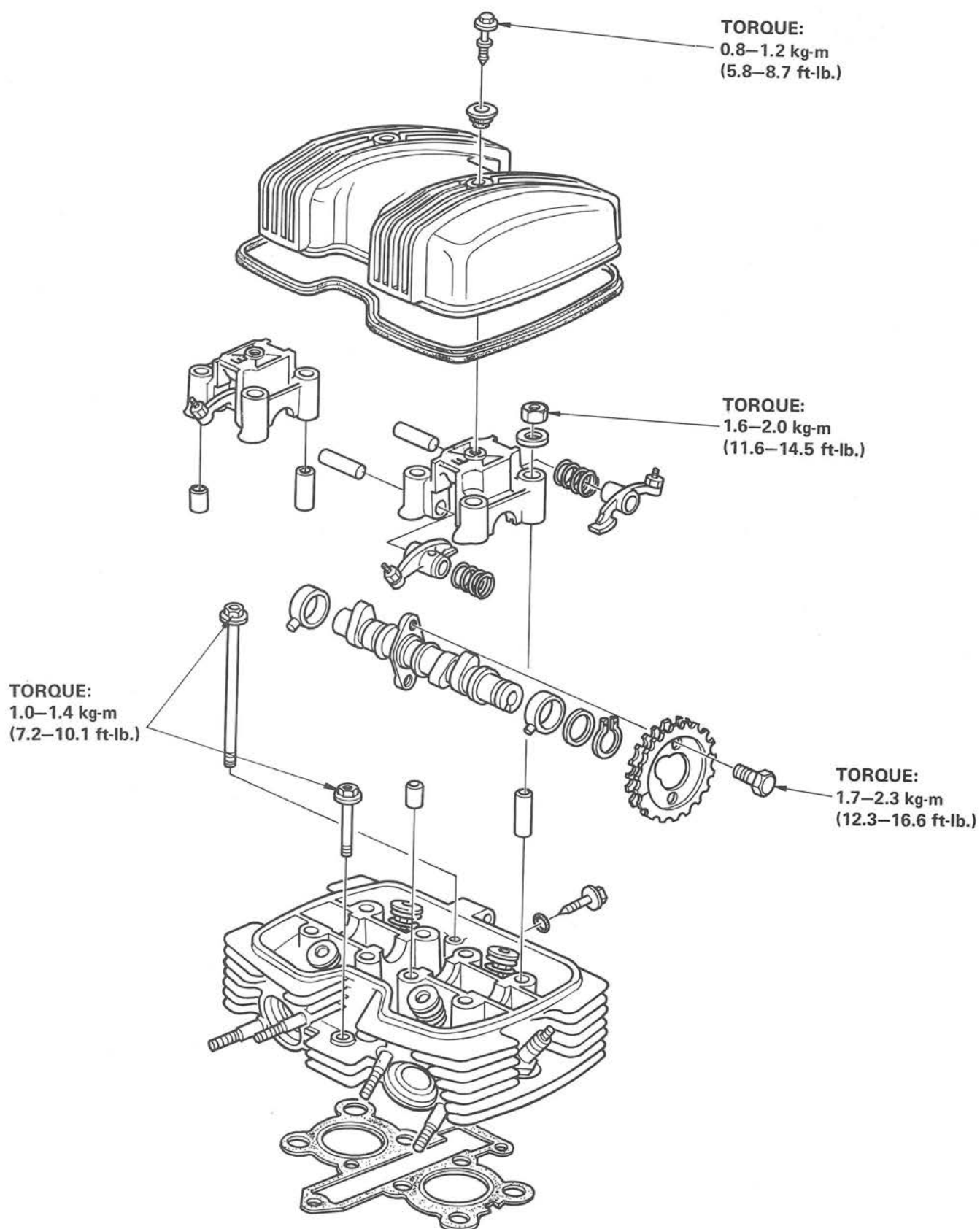
NOTE

- Temporarily install the all bolts on the frame, then tighten them securely.
- Install the hanger plates, hanger bracket and hanger bolt as shown.





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CAMSHAFT AND ROCKER ARM INSTALLATION	6-18

SERVICE INFORMATION

● WORKING PRACTICE

Camshaft lubricating oil is fed to the cylinder head through an oil passage in the cylinder head.

Be sure this oil passage is not clogged and O-rings and dowel pins are in place before installing the cylinder head.

Pour clean engine oil into the oil sinks of the cylinder head to fully lubricate the cam lobes.

● TOOLS

Special Tool

Valve guide reamer: Tool No. 07984-0980000

Common Tools

Valve guide remover driver: Tool No. 07742-0010100

Valve guide cutter: Tool No. 07742-0030100

Valve guide pilot (5.5): Tool No. 07742-0030200

Valve spring compressor: Tool No. 07757-0010000

● TORQUES

Cylinder head bolts: 1.0-1.4 kg-m (7.2-10.1 ft-lb.)

Camshaft holder nuts: 1.6-2.0 kg-m (11.6-14.5 ft-lb.)

Cam sprocket bolts: 1.7-2.3 kg-m (12.3-16.6 ft-lb.)

Cylinder head cover bolt: 0.8-1.2 kg-m (5.8-8.7 ft-lb.)



TROUBLESHOOTING

Performance problems related to the cylinder head can usually be diagnosed by a compression test, or noise problems which can be traced to the top end with a sounding rod or stethoscope.

Low Compression or Uneven Compression (under 10 kg/cm², 142 psi):

1. Valve troubles

- Incorrect valve adjustment
- Burned or bent valves
- Incorrect valve timing
- Sticking valve
- Broken valve spring
- Weak valve spring
- Improper valve seating

2. Cylinder head troubles

- Leaking or damaged head gasket
- Warped or cracked cylinder head
- Worn piston ring(s) and/or cylinder

Compression Too High (over 14 kg/cm², 199 psi):

1. Excessive carbon deposits on the combustion chamber or piston

Excessive Noise:

1. Incorrect valve adjustment
2. Sticking valve or broken valve spring
3. Damaged rocker arm or camshaft
4. Worn or damaged camshaft sprocket
5. Slacken or worn cam chain

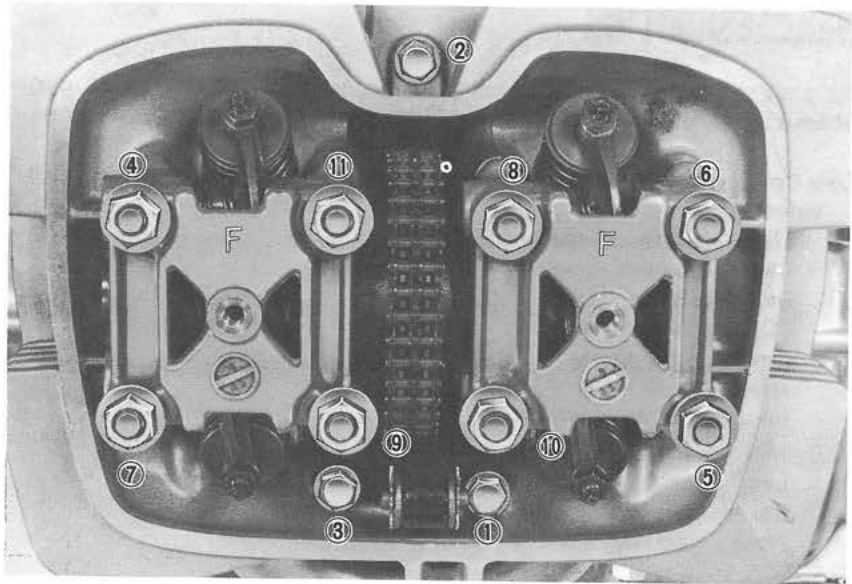


ROCKER ARM / CAMSHAFT REMOVAL

Remove the generator cover and the cylinder head cover and unscrew the camshaft holder nuts.

CAUTION

Perform this operation while the engine is cold to prevent warpage due to heat. Loosen the cylinder head hold-down bolts in the sequence shown in steps 2-3.

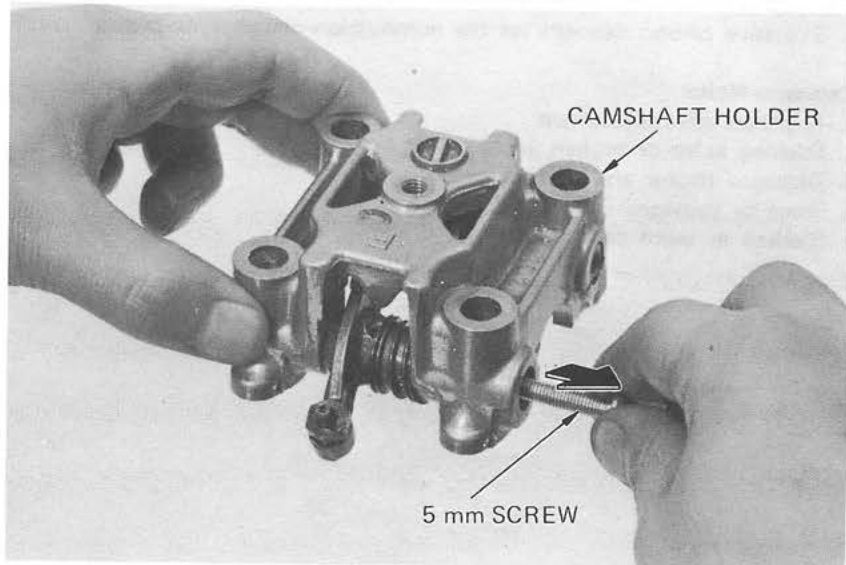


Remove the camshaft holders.

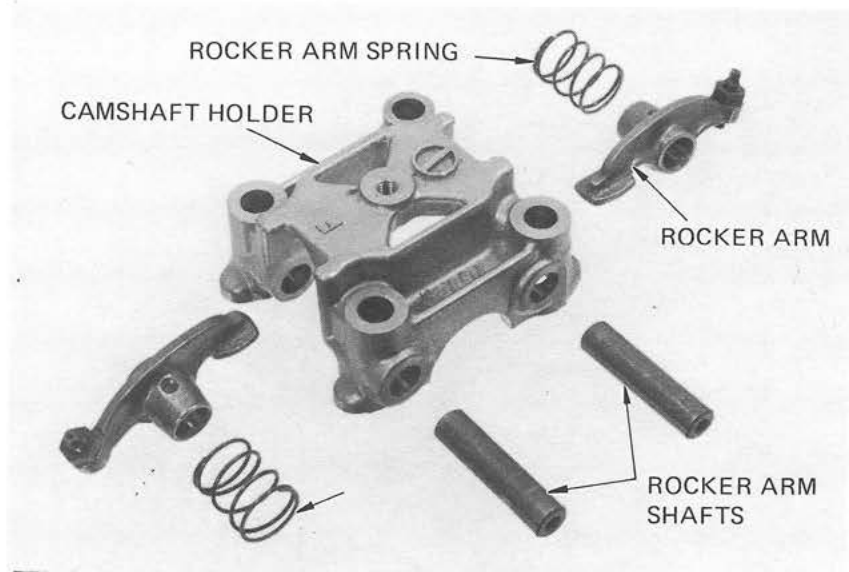
Pull off the rocker arm shafts after tightening the 5 mm screw into them.

NOTE

Mark each part to insure original assembly.



Remove the rocker arms and the rocker arm springs.

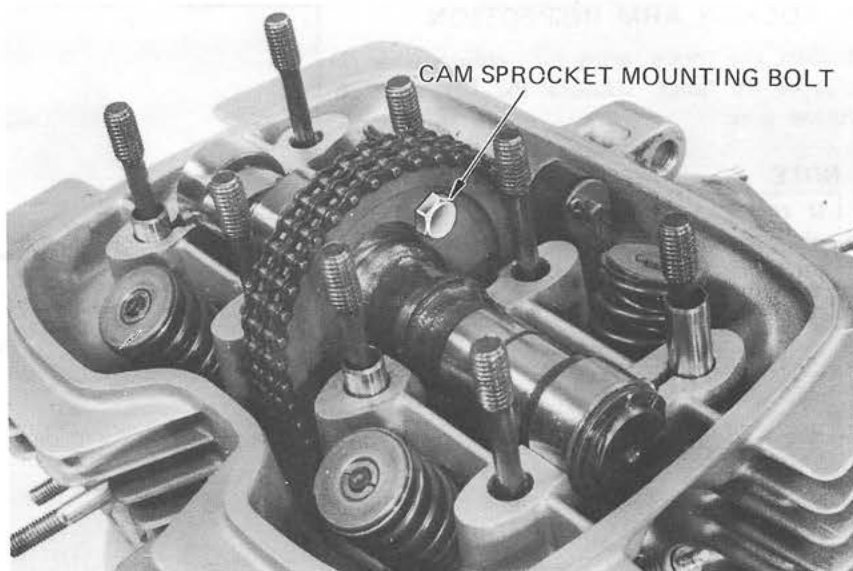




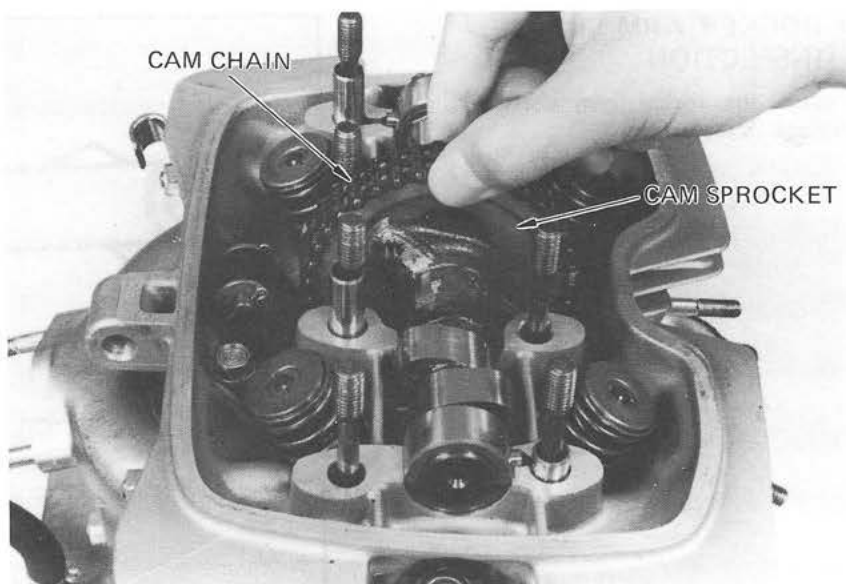
Unscrew the cam sprocket mounting bolt.
Turn the rotor counterclockwise, and remove
the other bolt.

NOTE

Do not drop the mounting bolts into
the cylinder.



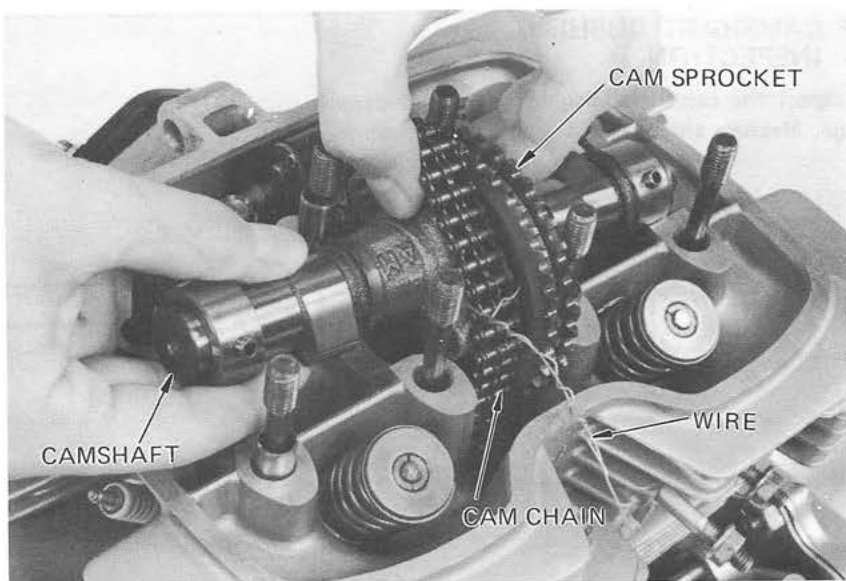
Remove the cam chain from the cam sprocket
and place it at the right side of cam sprocket.



Pull the camshaft out from right side while
holding cam sprocket and cam chain.

NOTE

Suspend the cam chain with a piece of
wire to prevent it from falling into the
cylinder.

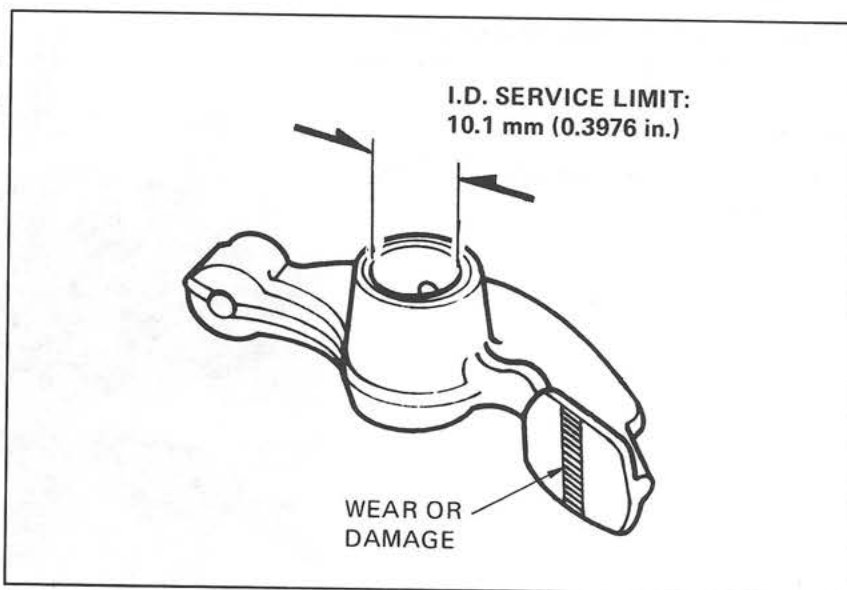


**• ROCKER ARM INSPECTION**

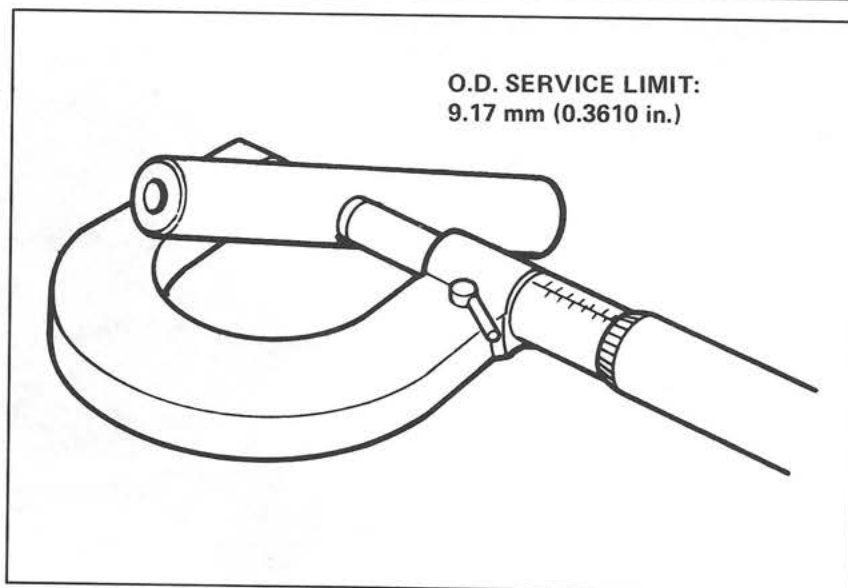
Inspect the rocker arms for damage, wear or clogged oil holes. Measure the I.D. of each rocker arm.

NOTE

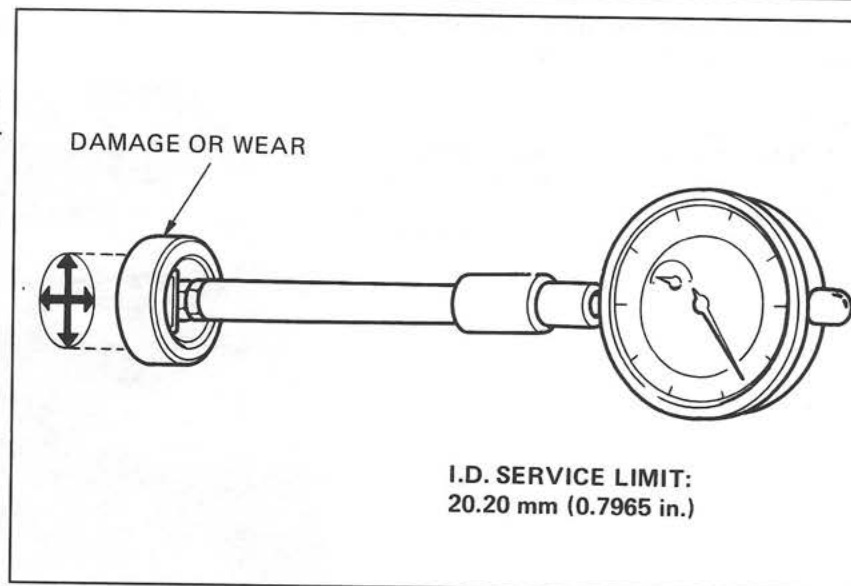
If rocker arms require servicing or replacement, inspect the camshaft lobes for scoring, chipping, or flat spots.

**• ROCKER ARM SHAFT INSPECTION**

Inspect the rocker arm shafts for wear or damage. Measure the O.D.

**• CAMSHAFT BUSHING INSPECTION**

Inspect the camshaft bushing for wear or damage. Measure the I.D. of the camshaft bushing.



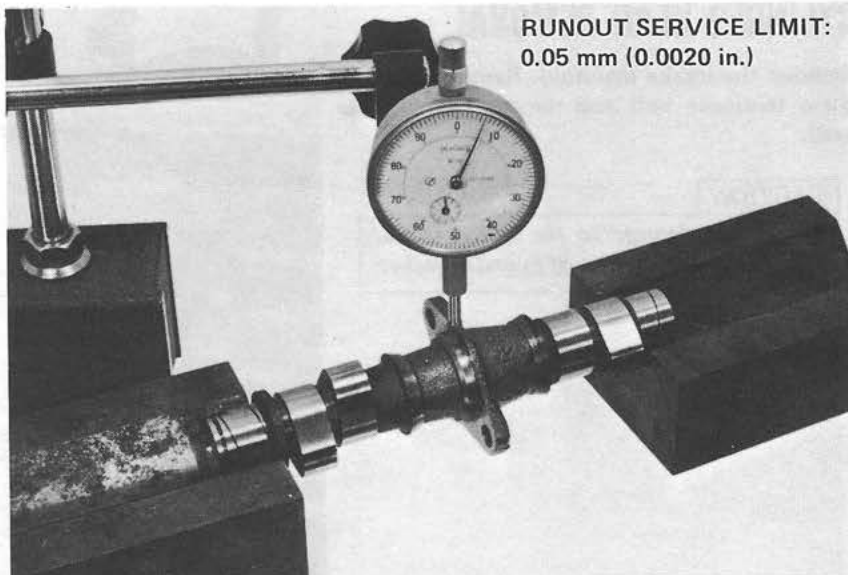


● **CAMSHAFT INSPECTION**

Check the camshaft runout with a dial indicator.

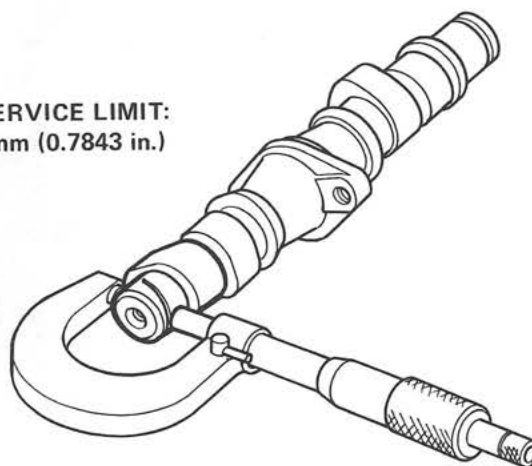
Support both ends of the camshaft in V-blocks.

Take 1/2 of total indicator reading.



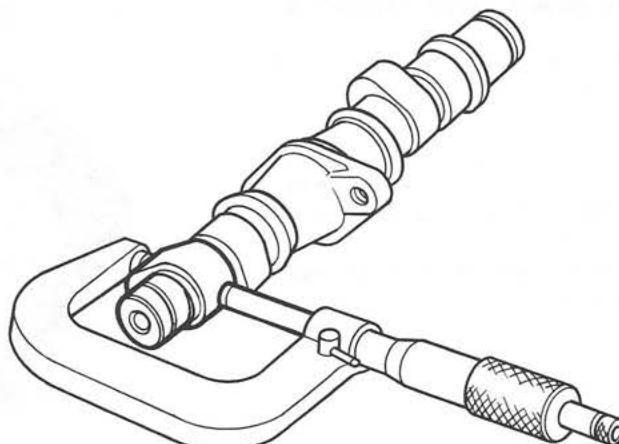
Inspect the camshaft journal for wear or damage. Measure the O.D. of camshaft journal.

O.D. SERVICE LIMIT:
19.92 mm (0.7843 in.)



Inspect each cam lobe for wear or damage. Measure the cam lift with the micrometer.

CAM LIFT SERVICE LIMIT:
IN: 26.6 mm (1.0472 in.)
EX: 26.5 mm (1.0433 in.)



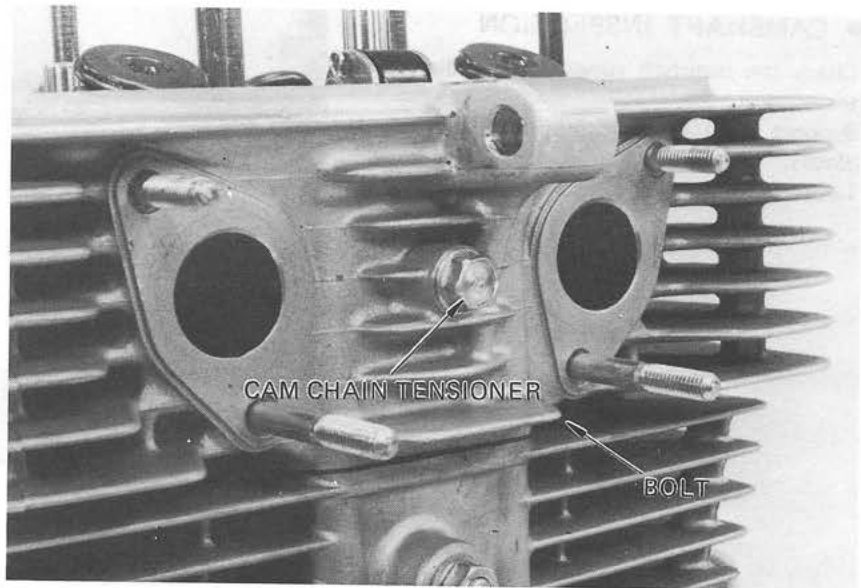


CYLINDER HEAD REMOVAL

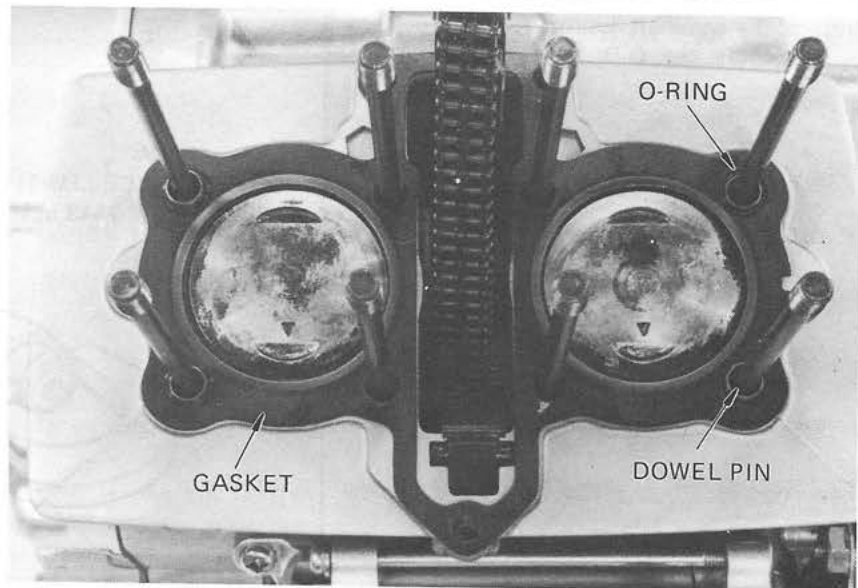
Remove the intake manifold. Remove the cam chain tensioner bolt and remove the cylinder head.

CAUTION

To prevent damage to the cylinder head, pry only at the cutout of cylinder gasket.



Remove the cylinder gasket, dowel pins and O-rings.

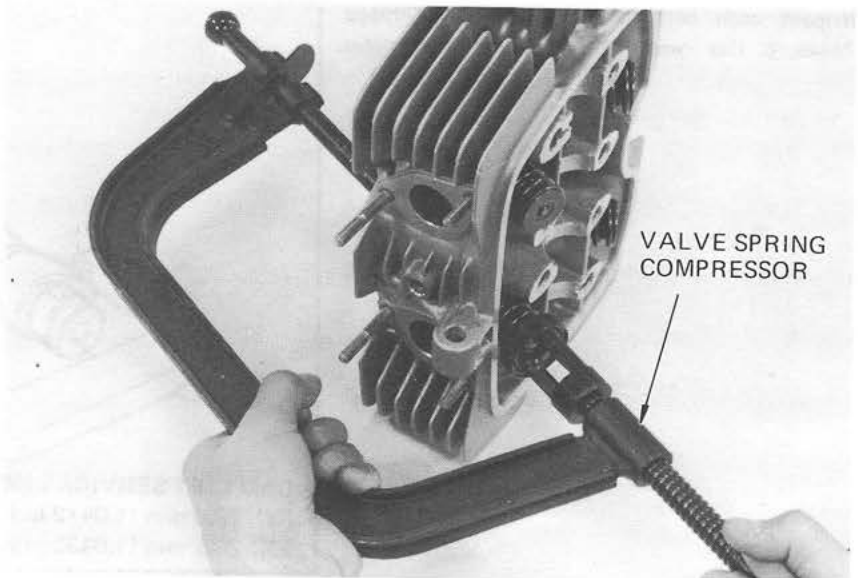


CYLINDER HEAD DISASSEMBLY

Remove the valve spring cotters, retainers, springs and valves.

NOTE

- Do not compress the valve springs more than necessary to remove the valve spring cotters.
- Mark all disassembled parts to insure original assembly.





Remove carbon deposits from the combustion chamber.
Clean off the head gasket surfaces.

NOTE

Avoid damaging the gasket surfaces.
Gasket will come off easier if soaked in solvent.

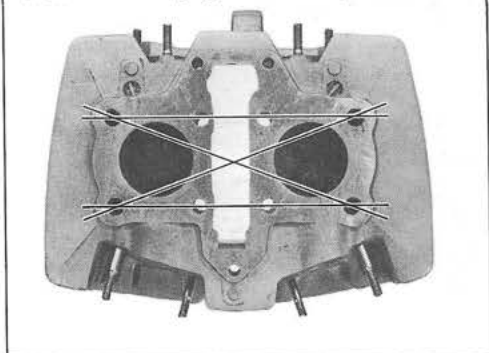
● CYLINDER HEAD INSPECTION

Check the spark plug hole and valve areas for cracks.

Check the cylinder head for warpage with a straight edge and a feeler gauge.

NOTE

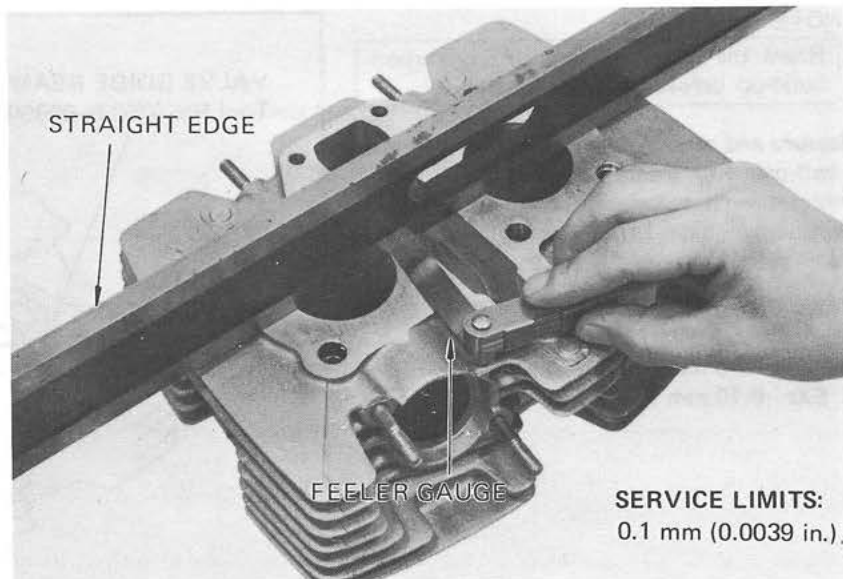
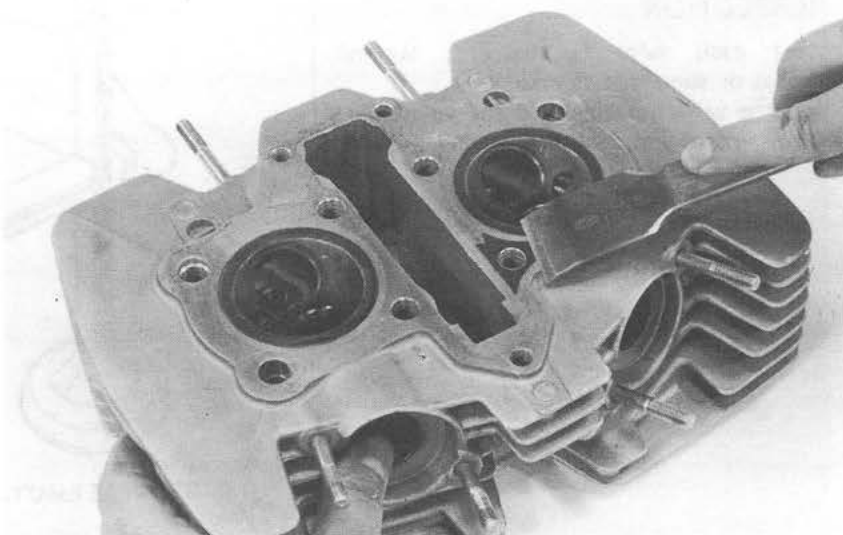
Check for warpage in an X pattern.



Measure the cylinder head height.

CYLINDER HEAD HEIGHT

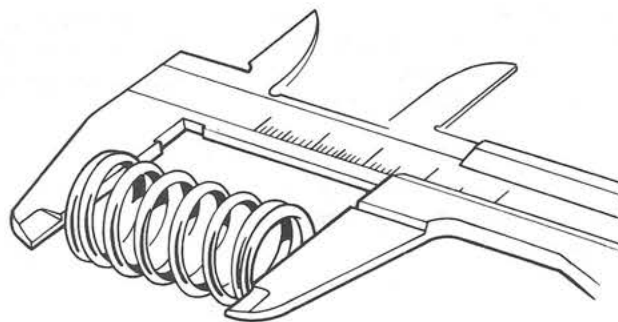
SERVICE LIMIT: 72.6 mm (2.8583 in.)



SERVICE LIMITS:
0.1 mm (0.0039 in.)

● VALVE SPRING FREE LENGTH INSPECTION

Measure the free length of the inner and outer valve springs.



SERVICE LIMITS:

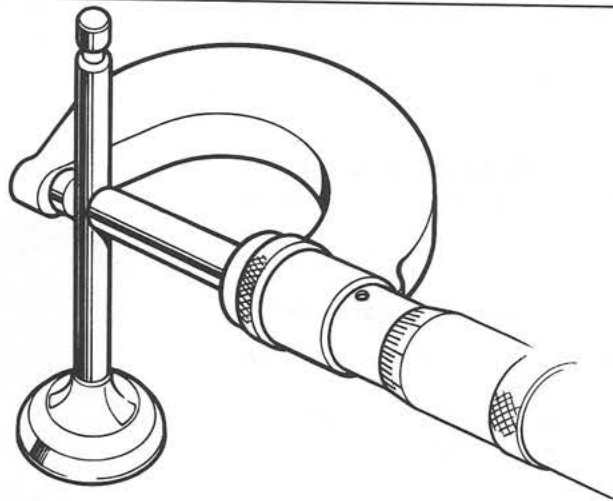
Inner spring: 29.0 mm (1.1417 in.)

Outer spring: 35.3 mm (1.3898 in.)



● VALVE, VALVE GUIDE INSPECTION

Inspect each valve for bending, burning, scratches or abnormal stem wear.
 Check the valve movement in the guide.
 Measure and record each valve stem O.D.



O.D. SERVICE LIMIT: IN: 5.42 mm (0.2134 in.)
 EX: 5.40 mm (0.2126 in.)

NOTE

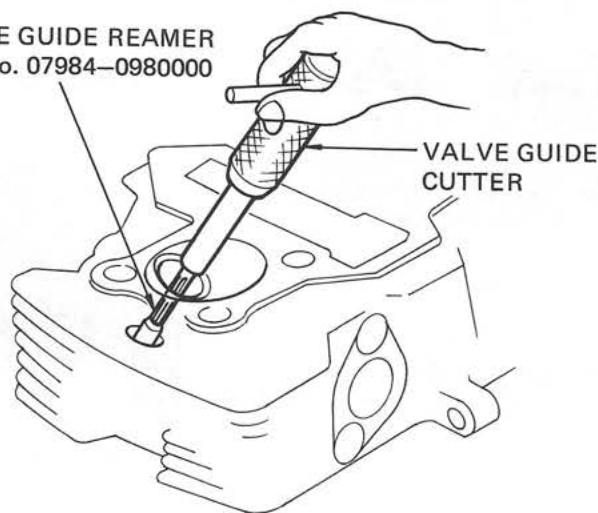
Ream the guides to remove any carbon build-up before checking clearance.

Measure and record each valve guide I.D. using a ball gauge or inside micrometer.
 Subtract each valve stem O.D. from the corresponding guide I.D. to obtain the stem-to-guide clearance.

VALVE STEM-TO-GUIDE CLEARANCE SERVICE LIMIT:

IN: 0.08 mm (0.0031 in.)
 EX: 0.10 mm (0.0039 in.)

VALVE GUIDE REAMER
 Tool No. 07984-0980000



NOTE

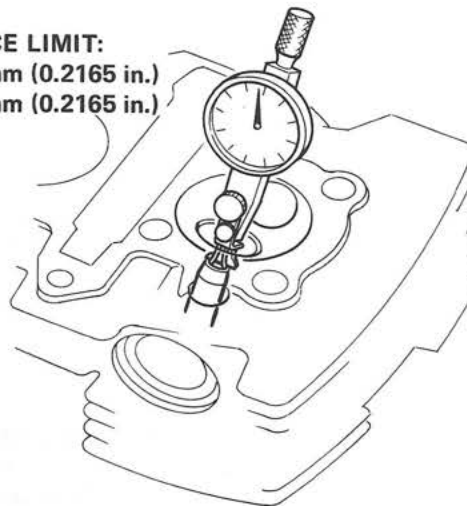
If the stem-to-guide clearance exceeds the service limit, determine if a new guide with standard dimensions would bring the clearance within tolerance. If so, replace any guides as necessary and ream to fit.

If stem-to-guide clearance still exceeds the service limits with new guides, replace the valves and guides.

NOTE

Reface valve seats whenever the valve guides are replaced.

I.D. SERVICE LIMIT:
 IN: 5.50 mm (0.2165 in.)
 EX: 5.50 mm (0.2165 in.)





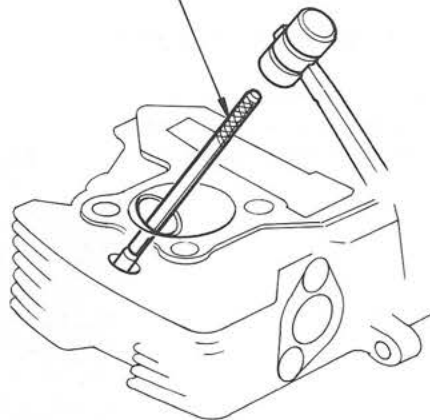
VALVE GUIDE REPLACEMENT

Support the cylinder head and drive out the guide from the valve port.

NOTE

When driving out the valve guide, do not damage the head.

DRIVER AND REMOVER 5.5 mm
PILOT 5.5 mm

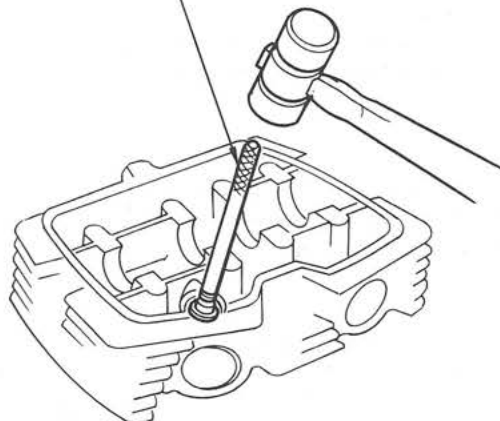


Install a new oversize valve guide from the top of head.

NOTE

Inspect the valve guide for damage.

DRIVER AND REMOVER 5.5 mm
PILOT 5.5 mm



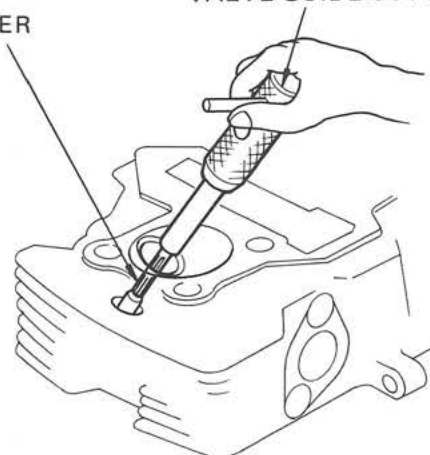
Ream the new guide after installation.

NOTE

Use cutting oil on the reamer during this operation.
Clean the cylinder head thoroughly to remove any metal particles.

VALVE GUIDE REAMER
NO. 07984-0980000

VALVE GUIDE CUTTER

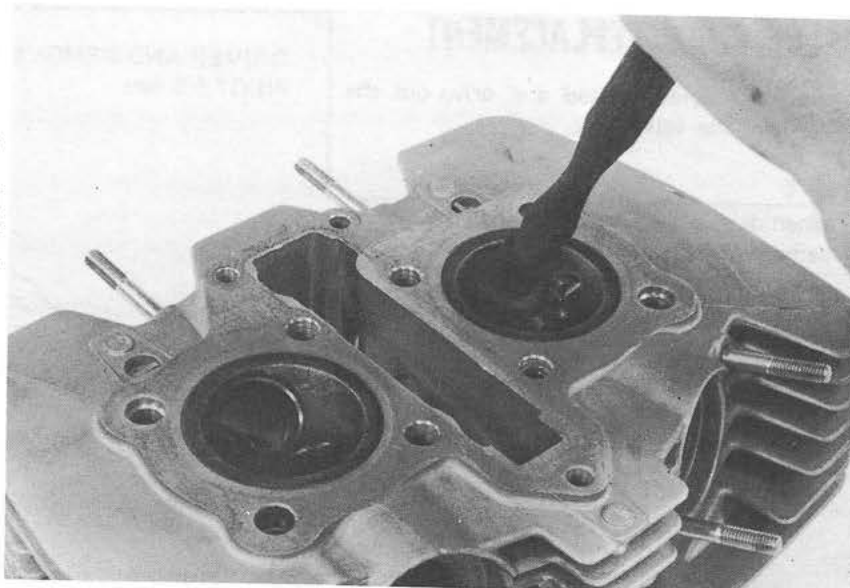




VALVE SEAT INSPECTION / REFACING

Clean all intake and exhaust valves thoroughly to remove carbon deposits.

Apply a light coat of valve lapping compound to each valve face. Lap each valve and seat using a rubber hose or other hand-lapping tool.



Remove the valve and inspect the face.
Measure the valve seat width.

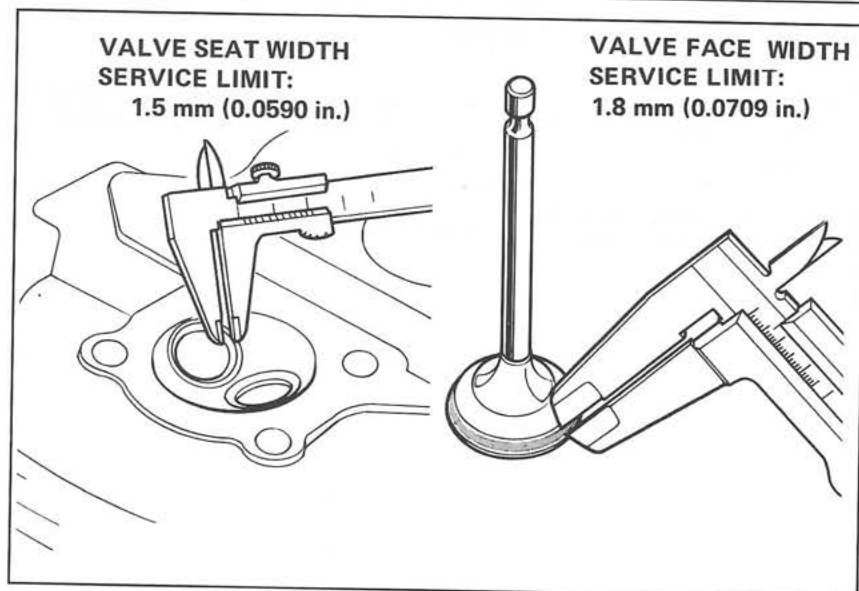
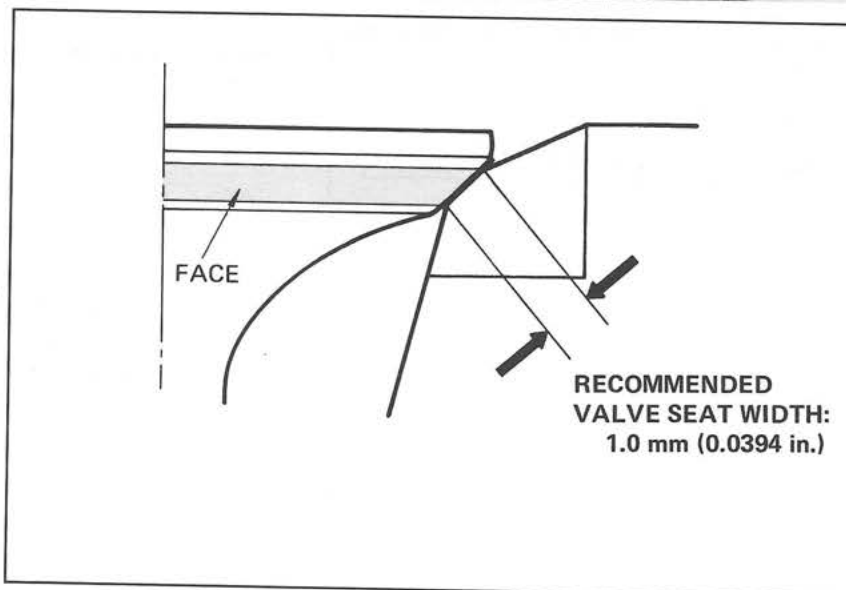
NOTE

The valves cannot be ground. If the face is burned or badly worn, replace the valve.

If the seat is too wide, too narrow, or has low spots, the seat must be ground for good sealing. A power grinder is recommended.

NOTE

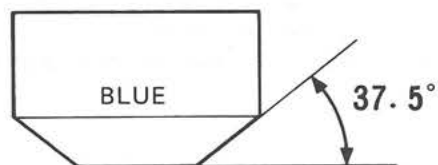
Follow the refacer manufacturer's operating instructions.



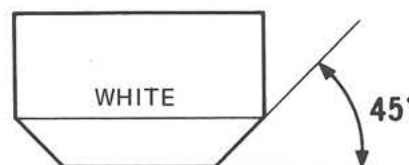


Inspect each cutting stone for cracks.

IN: O.D.: 26 mm (1.024 in.)
EX: O.D.: 23 mm (0.906 in.)



IN: O.D.: 26 mm (1.024 in.)
EX: O.D.: 21 mm (0.827 in.)

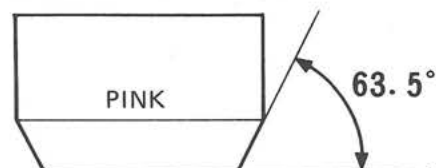


Reface the cutting stone to the correct angle.

NOTE

Each time a stone is removed and re-installed on the grinder, it must be re-faced on the dressing stand.

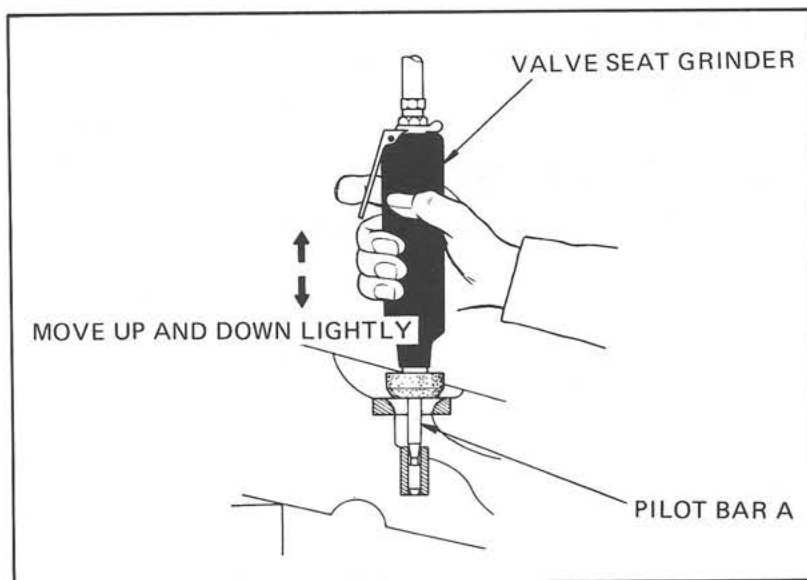
IN: O.D.: 26 mm (1.024 in.)
EX: O.D.: 23 mm (0.906 in.)



Lubricate the pilot bar with a thin coat of oil and firmly insert it into the valve guide.

WARNING

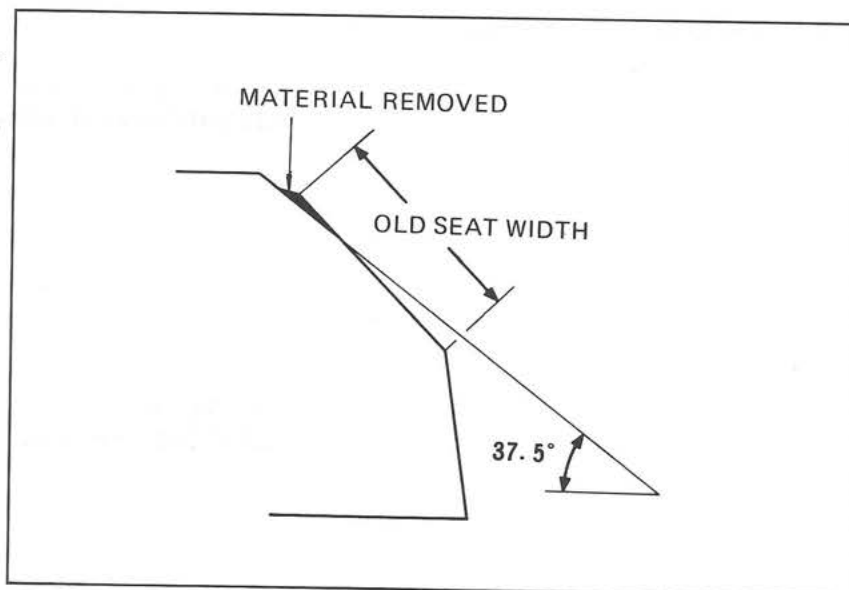
Use adequate eye protection when using the valve seat grinder.





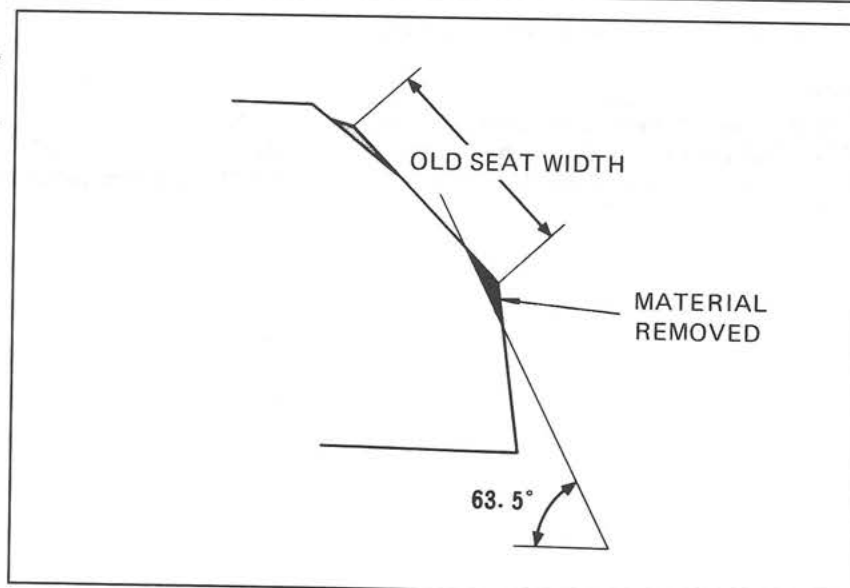
● TOP CUT

Using a 37.5° grinding stone, remove $1/4$ of the existing valve seat material.
 Inspect the area of the removed valve seat.



● BOTTOM CUT

Use a 63.5° grinding stone to remove the bottom $1/4$ of the old seat.
 Remove the grinder and check the ground area.

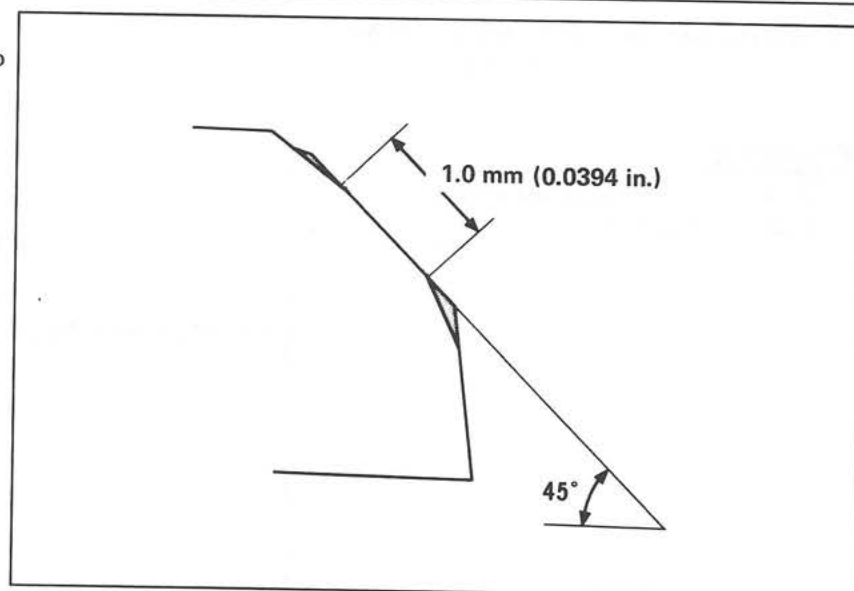


● FINISH CUT

With a 45° finishing stone, cut the seat to the proper width.

NOTE

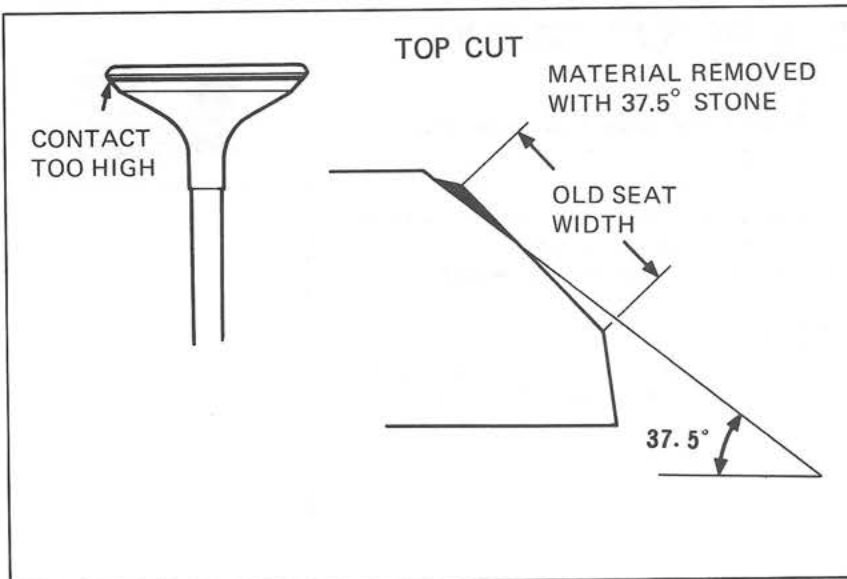
Remove the stone often and inspect the seat for pits.





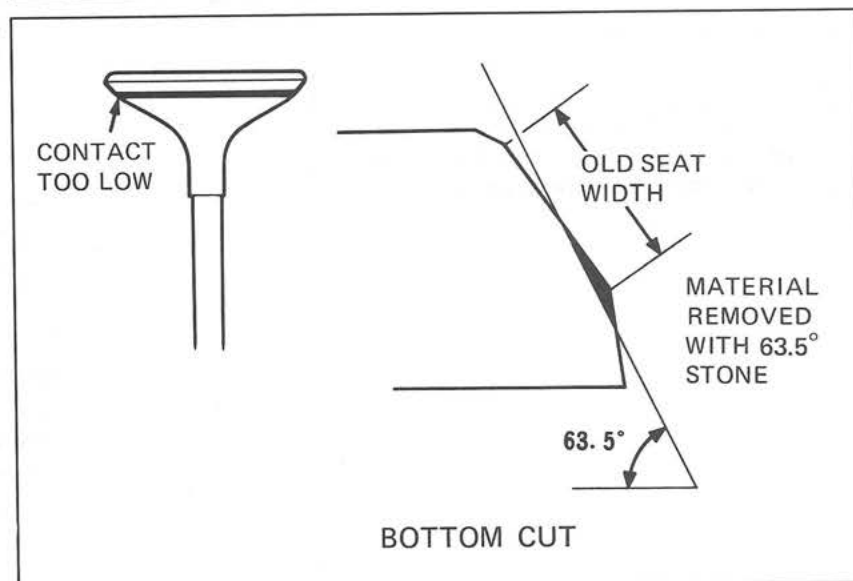
Check the contact between the valve and valve seat with Prussian Blue.

If the contact area on the valve face is too high, the seat must be lowered, with a 37.5° grinding stone.



If the contact area on the valve face is too low, the seat must be raised, with a 63.5° grinding stone.

Refinish the seat to 1.0 mm (0.0394 in.) width, with a 45° finishing stone.

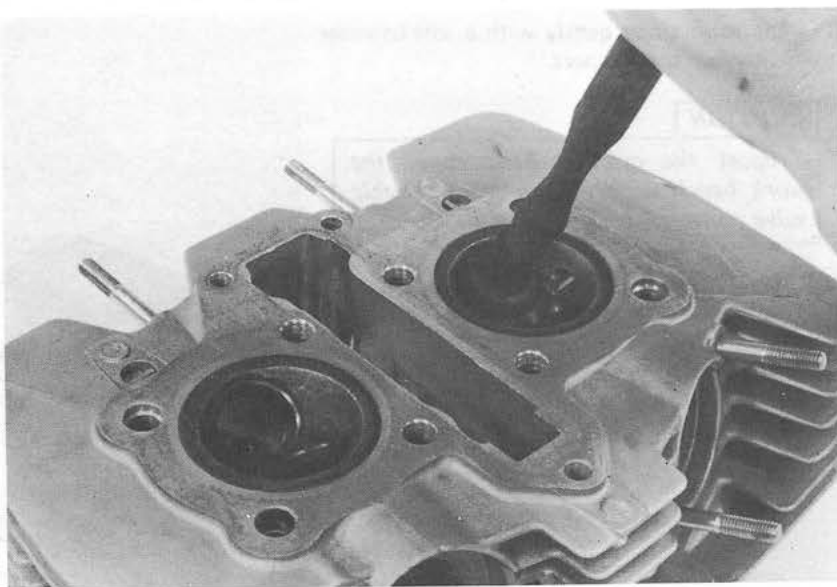


After grinding the seat, apply lapping compound to valve face and lap the valve lightly.

CAUTION

Do not allow the lapping compound to enter the valve guide.

After lapping, wash any residual compound off the cylinder head and valve.





CYLINDER HEAD ASSEMBLY

NOTE

Replace the valve stem seals when disassembling.

Lubricate each valve stem with oil and insert the valve into the valve guide.
Install the valve springs and retainers.

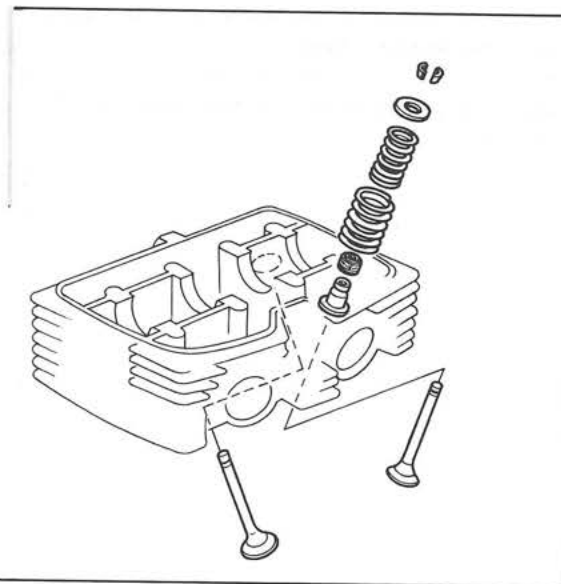
NOTE

Install the valve springs with the tightly wound ends facing the cylinder head.

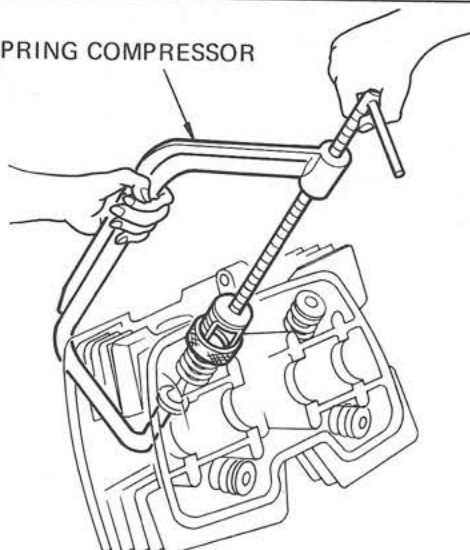
Install the valve keepers.

NOTE

To prevent loss of tension, do not compress the valve spring more than necessary to install the valve keepers.



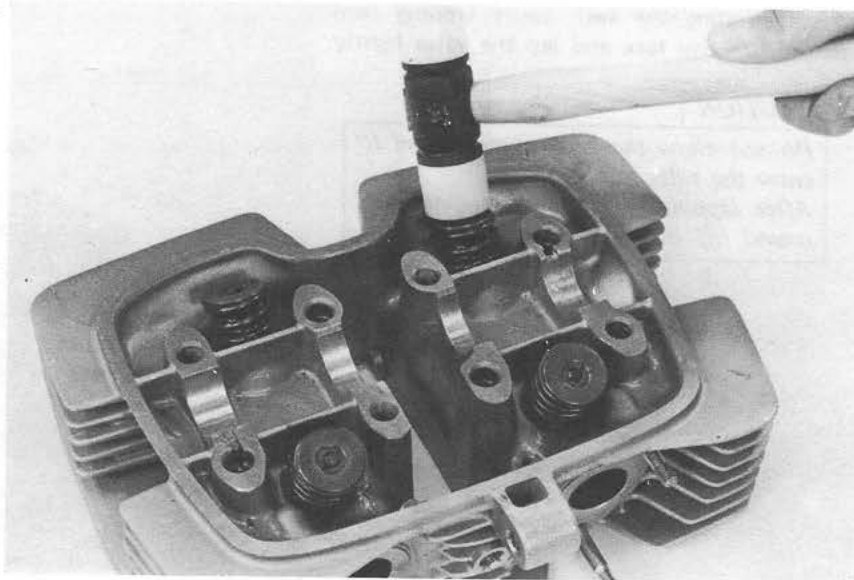
VALVE SPRING COMPRESSOR



Tap the valve stems gently with a soft hammer to firmly set the keepers.

CAUTION

Support the cylinder head above the work bench surface to prevent possible valve damage.



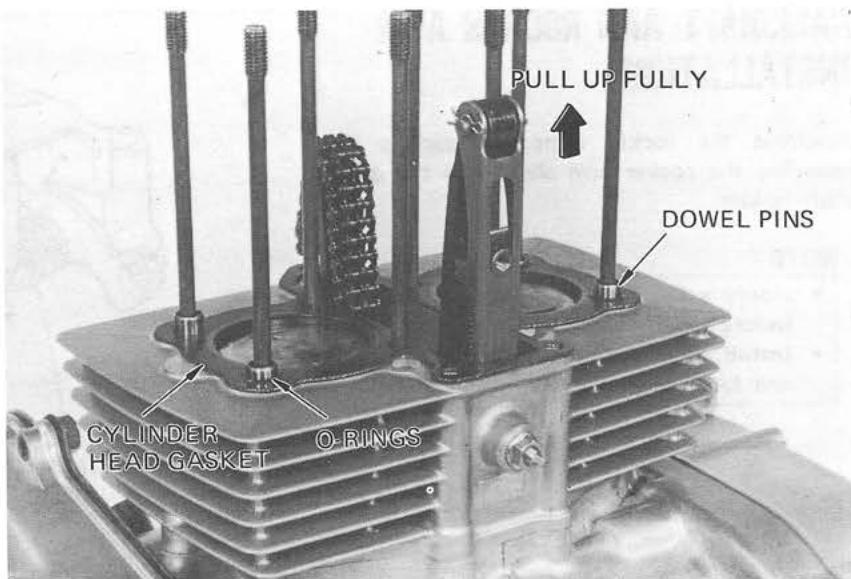


CYLINDER HEAD INSTALLATION

Clean the cylinder head gasket surfaces of any gasket material.

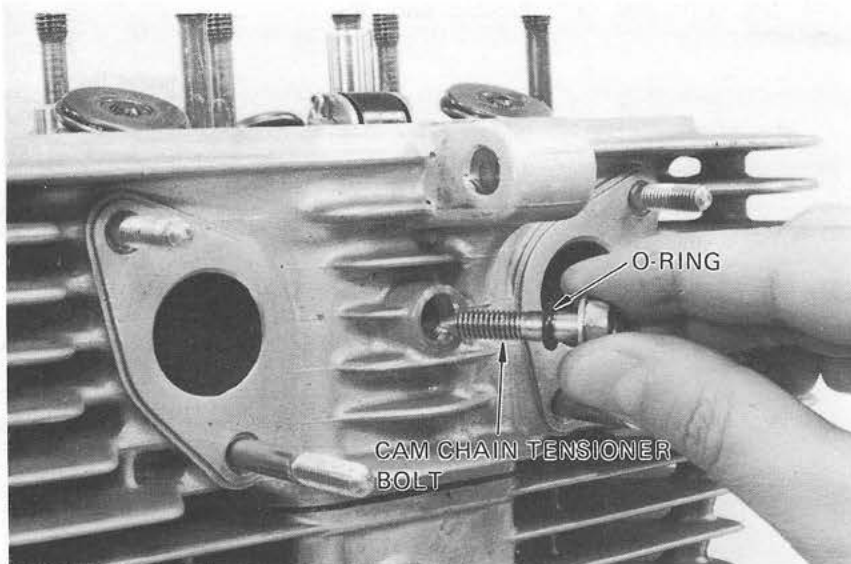
Install the O-rings, dowel pins and a new gasket.

Loosen the cam chain tensioner lock nut and pull the tensioner up fully. Retighten the lock nut.



Install the cylinder head.

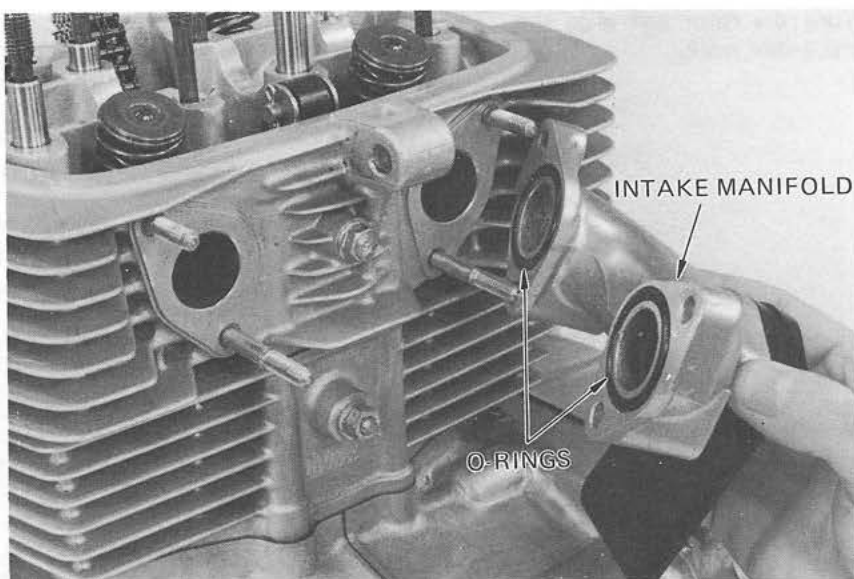
Install the cam chain tensioner bolt with O-ring.



Install the intake manifold with O-rings.

NOTE

Check that the O-rings install the groove of the intake manifold properly.



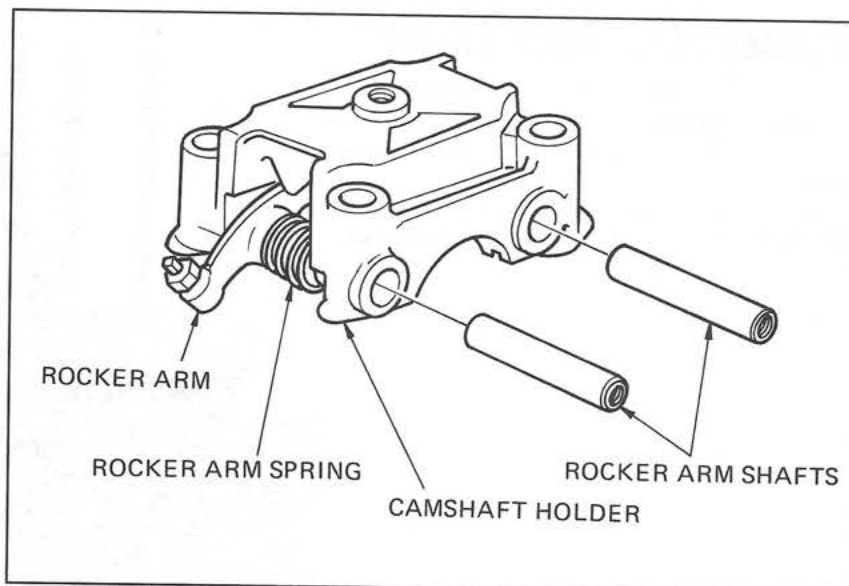


CAMSHAFT AND ROCKER ARM INSTALLATION

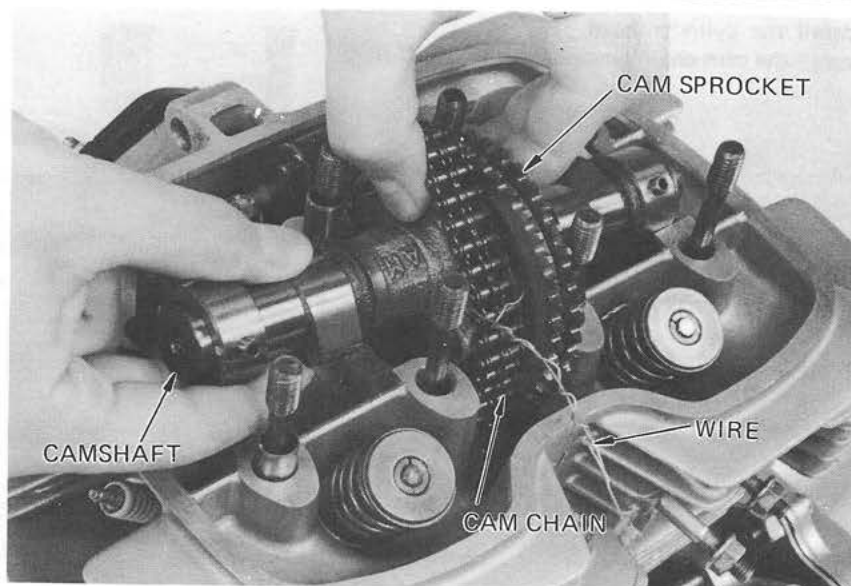
Assemble the rocker arms and springs by installing the rocker arm shaft into the camshaft holder.

NOTE

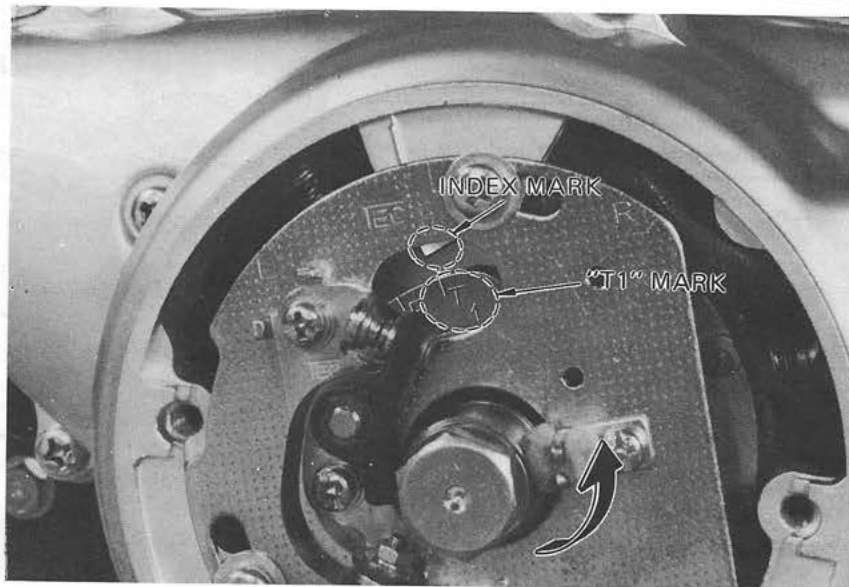
- Apply a thin coat of oil to the shafts before assembly.
- Install each shaft with the threaded end facing out.



Slide cam chain and cam sprocket onto the camshaft.

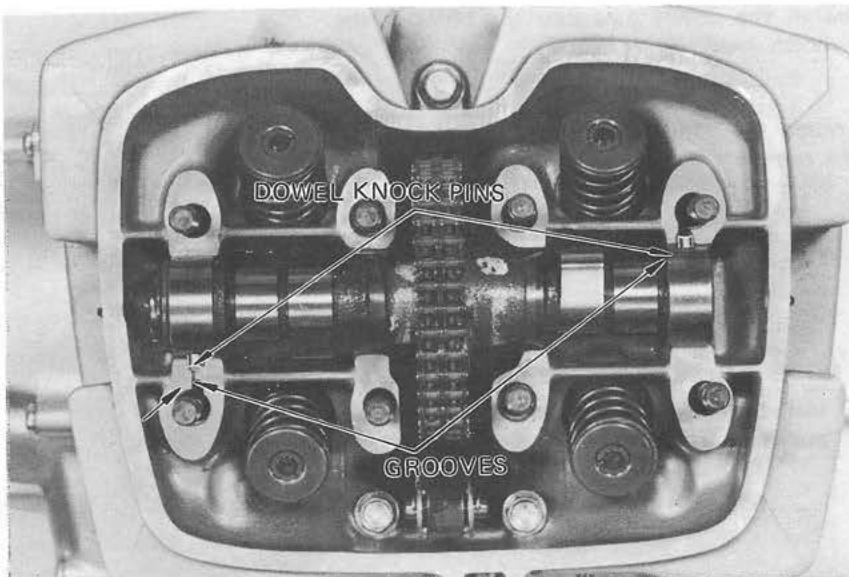


Turn the rotor and align the "T1" mark to the index mark.

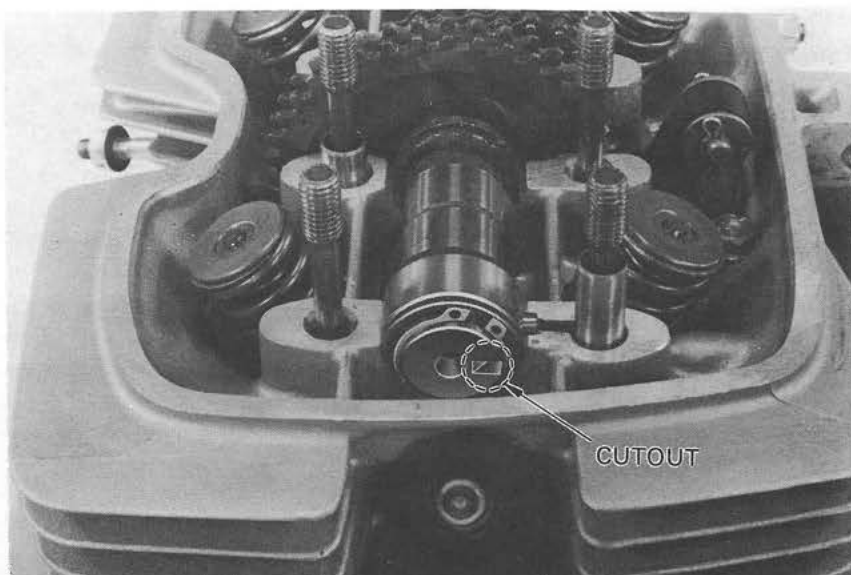




Insert the knock pins of the camshaft bushings into the grooves of the cylinder head. (Insert left and right sides securely.)

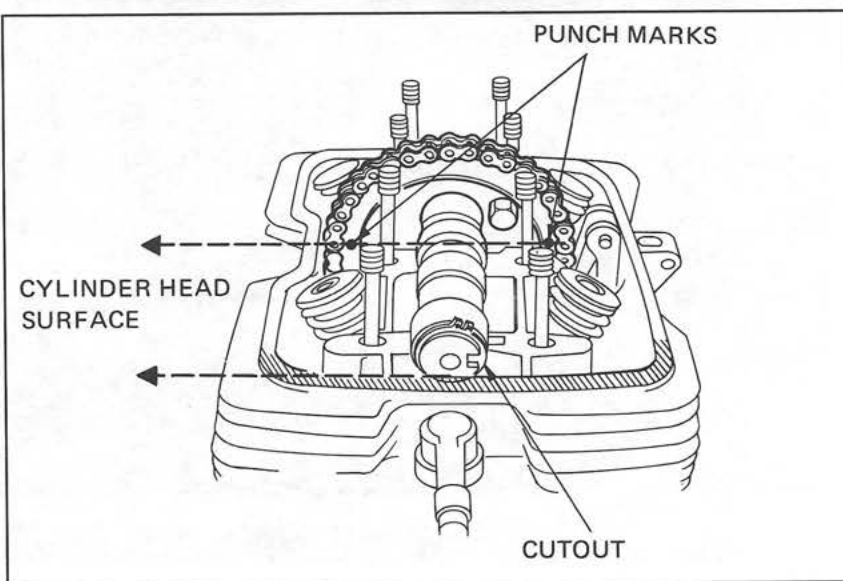


Turn the camshaft so that the cutout faces the intake side and positions it parallel to the cylinder head surface.



Place the punch marks of the cam sprocket parallel to the cylinder head surface.
Install the cam chain.
Tighten one cam sprocket setting bolt.
Turn the rotor counterclockwise 360° and tighten the other bolt.

TORQUE: 1.7–2.3 kg-m (12.3–16.6 ft-lb.)



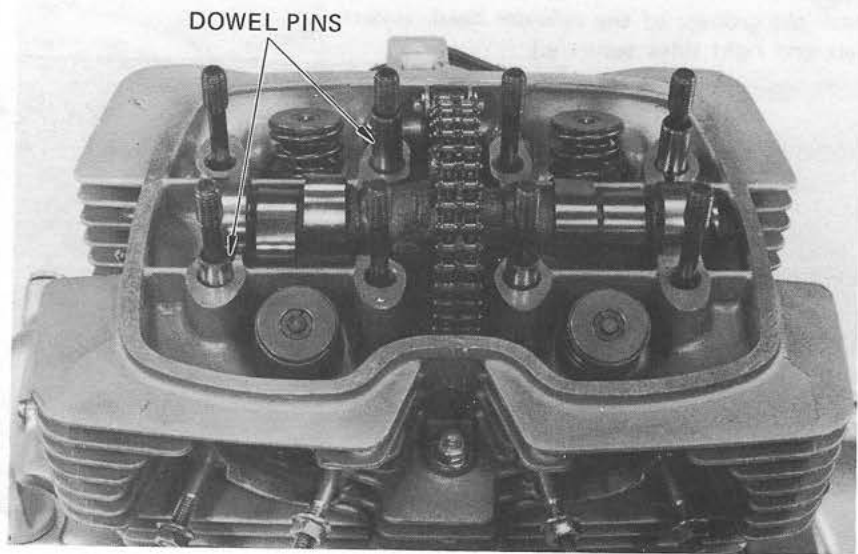


Install the dowel pins into the holes in the cylinder head.

Loosen the adjusting screws fully and install the camshaft holder.

NOTE

Install the camshaft holder with the "F" marks to the front.



Torque in the sequence shown.

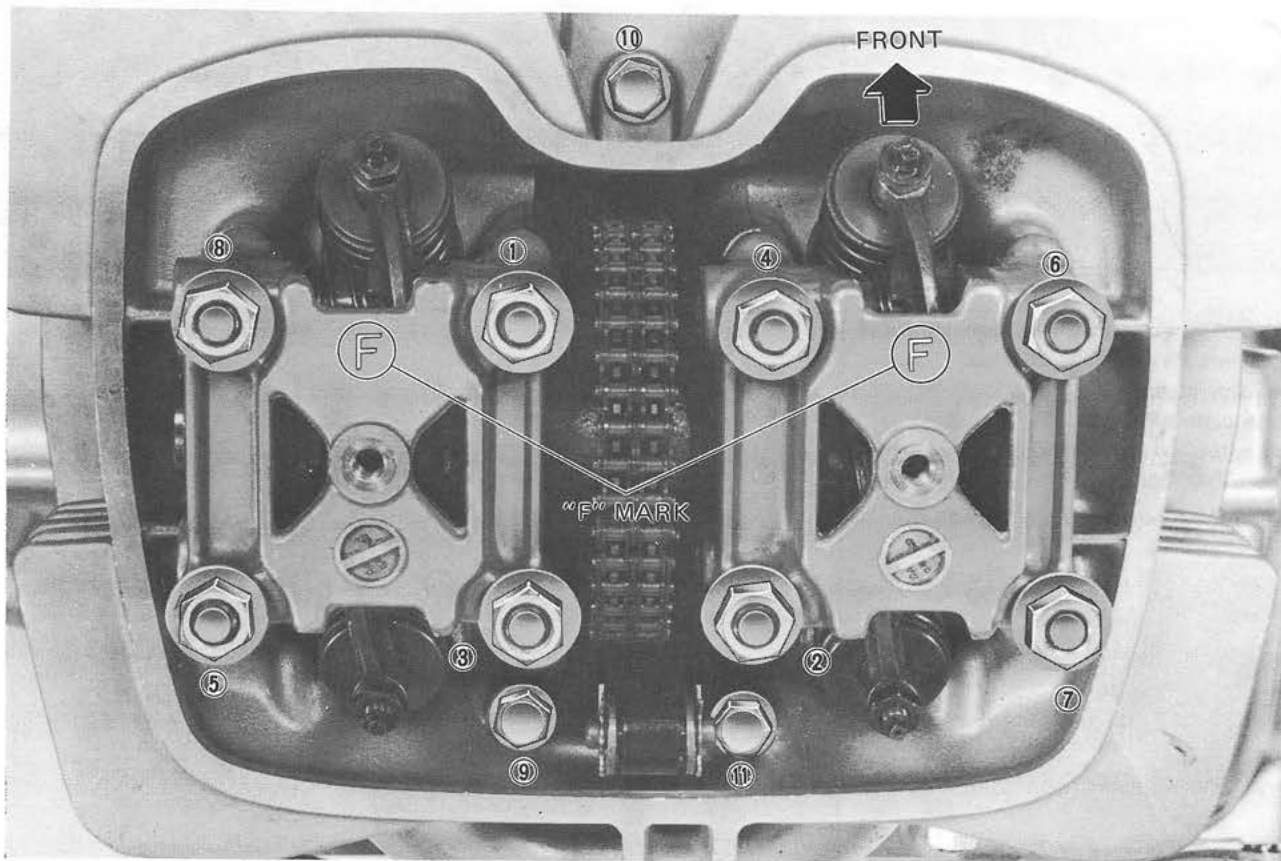
TORQUES:

NUT 1.6–2.0 kg-m (11.6–14.5 ft-lb.)

BOLT 1.0–1.4 kg-m (7.2–10.1 ft-lb.)

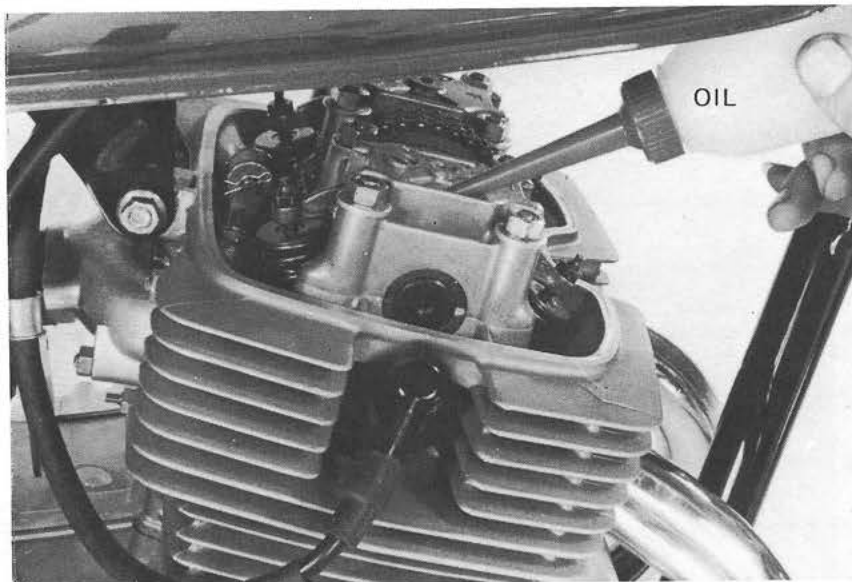
NOTE

Tighten an X pattern in 2-3 steps.

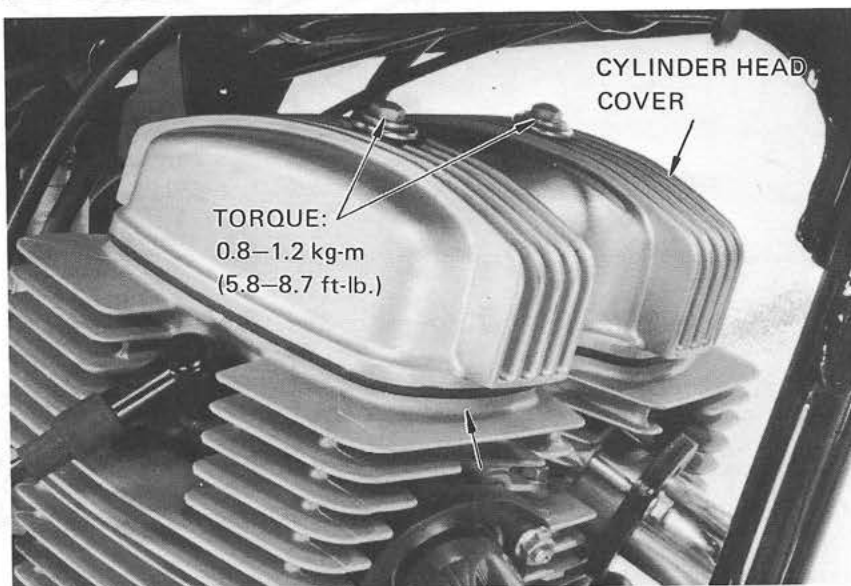


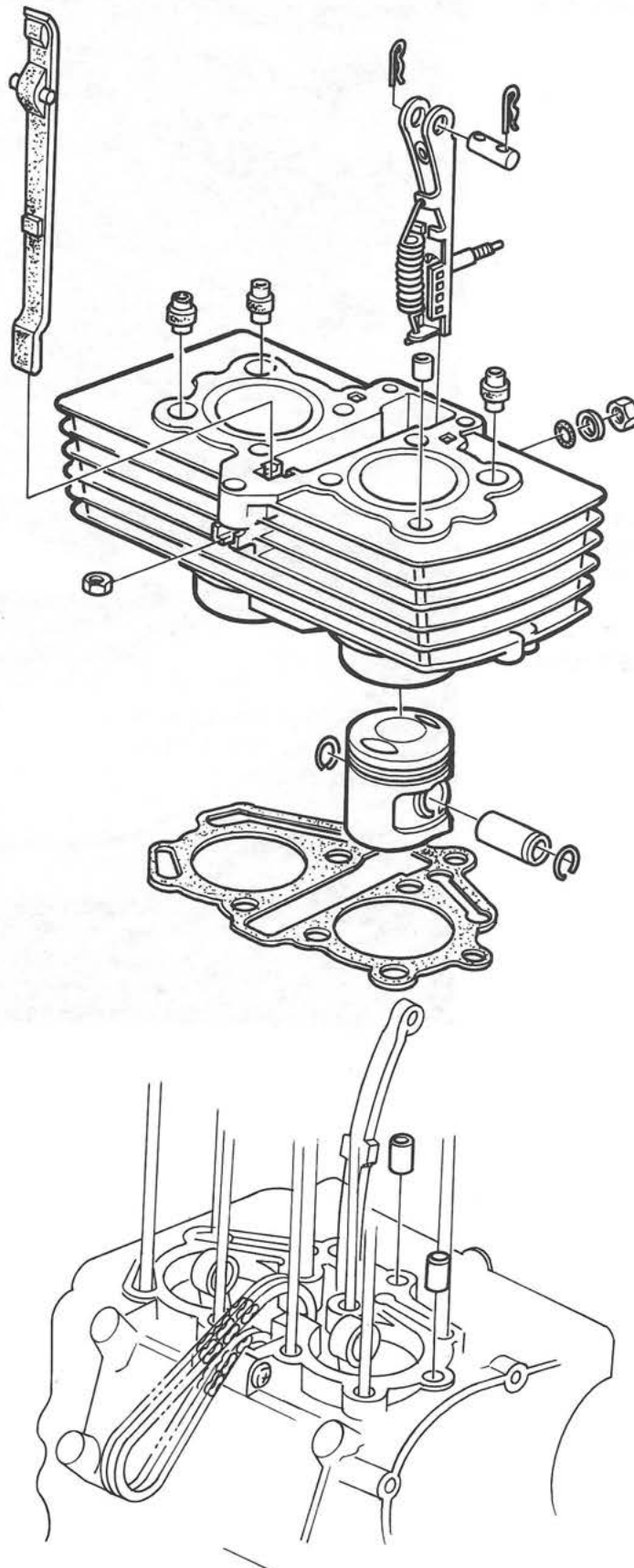


Fill the oil pockets in the cylinder head with oil so that the cam lobes are submerged.



Adjust valve clearance, Pages 3-4.
Adjust cam chain tensioner, Page 3-7.
Inspect the cylinder head cover gasket for damage or deterioration.
Install the head cover and tighten the bolts.
TORQUE: 0.8–1.2 kg-m (5.8–8.7 ft-lb.)







SERVICE INFORMATION	7-1
TROUBLESHOOTING	7-2
CYLINDER REMOVAL	7-3
PISTON REMOVAL	7-4
PISTON INSTALLATION	7-9
CYLINDER INSTALLATION	7-9

SERVICE INFORMATION

• WORKING PRACTICE

Cylinder head lubricating oil is fed through an oil passage in the cylinder.

Be sure this oil passage is not clogged and O-rings and dowel pins are in place before installing the cylinder head.

• TOOLS

Special Tools

Piston ring compressor: 07954-4190000

Piston base: 07958-2500000

• SERVICE DATA

ITEM		STANDARD	SERVICE LIMIT
Cylinder	I.D.	53.00-53.01 mm (2.0866-2.0870 in.)	53.1 mm (2.0905 in.)
	Out-of-round	_____	0.05 mm (0.0020 in.)
	Taper	_____	0.05 mm (0.0020 in.)
	Warpage	Max. 0.05 mm (0.0020 in.)	0.1 mm (0.0004 in.)
Pistons, piston rings and piston pins			
	Piston skirt O.D.	52.960-52.990 mm (2.0850-2.0862 in.)	52.86 mm (2.0811 in.)
	Piston pin bore	14.002-14.008 mm (0.5513-0.5515 in.)	14.05 mm (0.5531 in.)
	Piston pin O.D.	13.994-14.000 mm (0.5509-0.5512 in.)	13.98 mm (0.5504 in.)
Piston ring side clearance			
	Top/second	0.015-0.045 mm (0.0006-0.0018 in.)	0.12 mm (0.0048 in.)
	Oil	0.017 mm (0.0067 in.)	_____
Piston ring end gap	Top/second	0.15-0.35 mm (0.0060-0.0138 in.)	0.5 mm (0.0197 in.)
	Oil	0.2-0.9 mm (0.0078-0.0354 in.)	_____
Piston ring thickness	Top/second	1.175-1.190 mm (0.0463-0.0469 in.)	1.12 mm (0.0441 in.)
	Oil	2.35-2.55 mm (0.0925-0.1004 in.)	_____
Connecting rod small end I.D.		14.016-14.034 mm (0.5518-0.5525 in.)	14.08 mm (0.5543 in.)



TROUBLESHOOTING

Low or Uneven Compression

1. Worn cylinder or piston rings

Compression Too High

1. Excessive carbon deposits on pistons

Excessive Smoke

1. Worn cylinder and piston rings
2. Improperly installed piston rings
3. Damaged piston or cylinder

Engine Overheating

1. Excessive carbon deposits on piston or combustion chamber

Piston Slap

1. Worn cylinder and piston
2. Excessive carbon deposits



CYLINDER REMOVAL

Remove the cylinder head (Refer to Section 6).

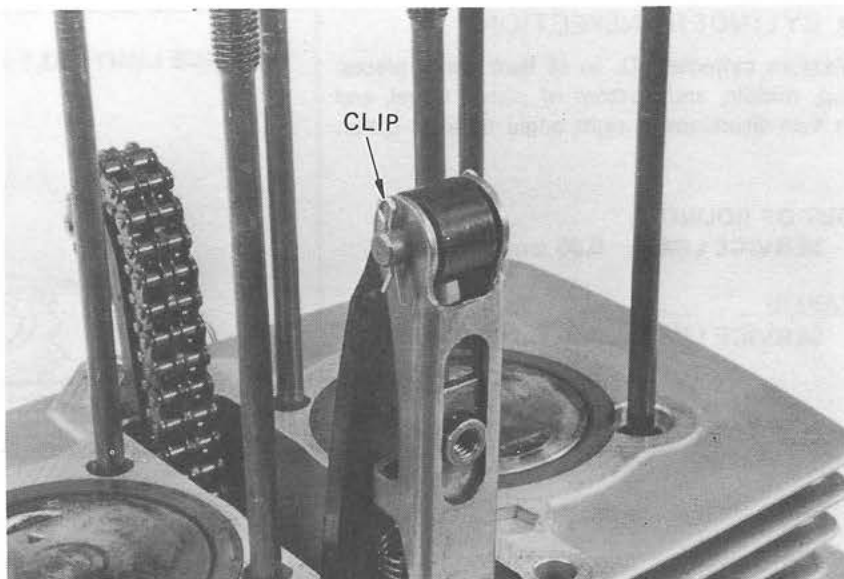
Pry off the cam chain tensioner clip and pin.

NOTE

Do not drop the clip and pin into the crankcase.

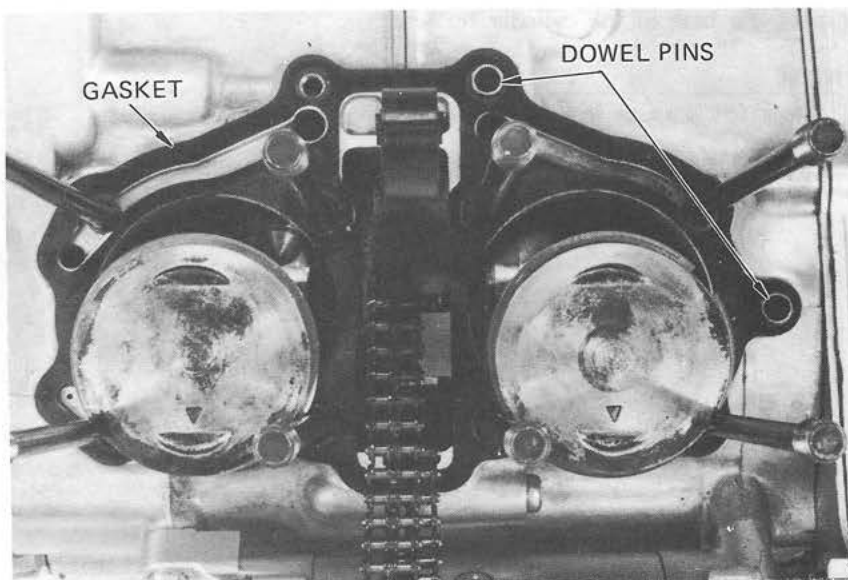
Remove the tensioner lock nut, washer and O-ring.

Remove the tensioner base.



Remove the cylinder.

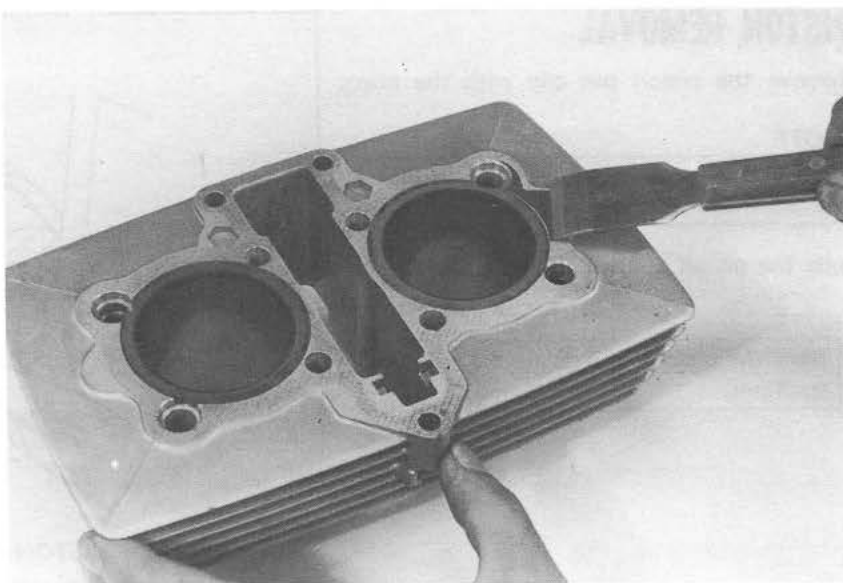
Remove the gasket and dowel pins.



Clean the base face of the cylinder with the scraper.

NOTE

Gasket will come off easier if soaked in solvent.
Avoid damaging the gasket surface.





● CYLINDER INSPECTION

Measure cylinder I.D. in at least three places; top, middle, and bottom of piston travel, and in two directions at right angle to each other.

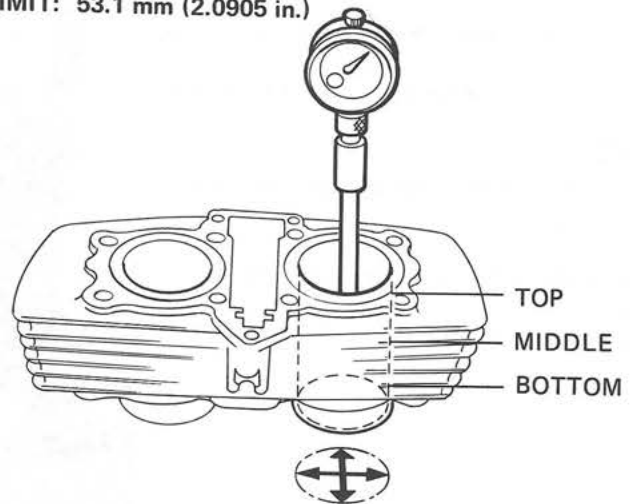
OUT OF ROUND:

SERVICE LIMIT: 0.05 mm (0.0020 in.)

TAPER:

SERVICE LIMIT: 0.05 mm (0.0020 in.)

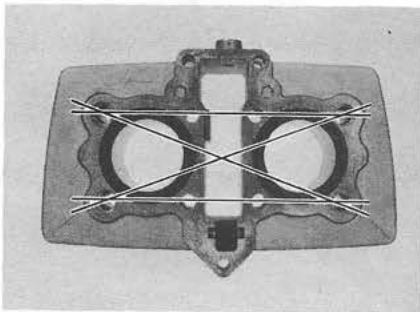
SERVICE LIMIT: 53.1 mm (2.0905 in.)



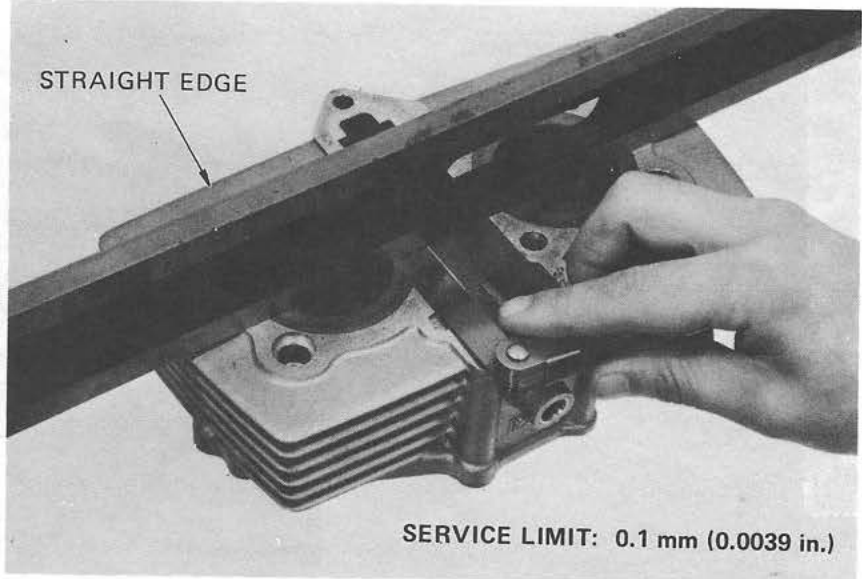
Inspect the base of the cylinder for warpage.

NOTE

Check for warpage in an X pattern.



STRAIGHT EDGE



SERVICE LIMIT: 0.1 mm (0.0039 in.)

PISTON REMOVAL

Remove the piston pin clip with the pliers.

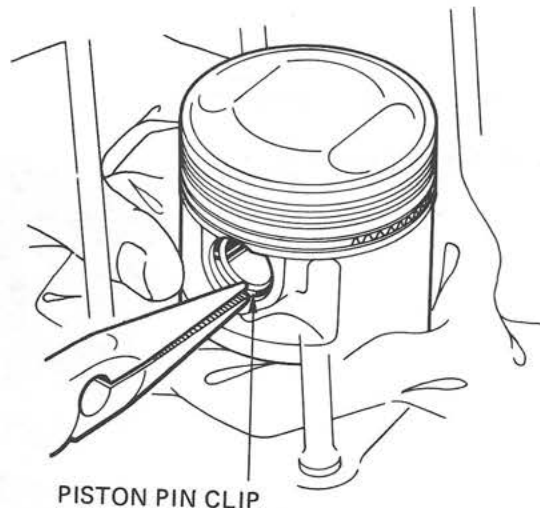
NOTE

Be careful when removing clips to keep them from dropping into the crankcase.

Press the piston pin out of the piston.

NOTE

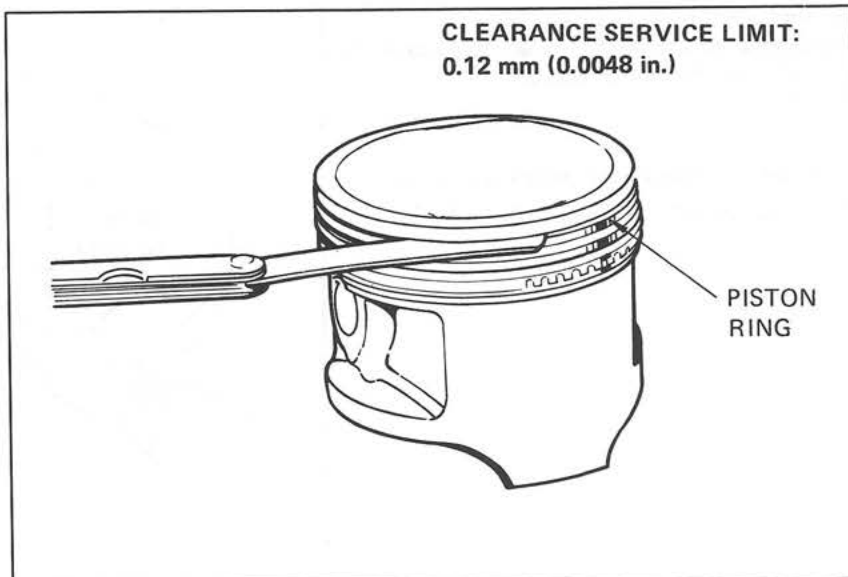
Mark the pistons to indicate the cylinder positions.





- **PISTON/PISTON RING INSPECTION**

Inspect the piston ring-to-groove clearance.

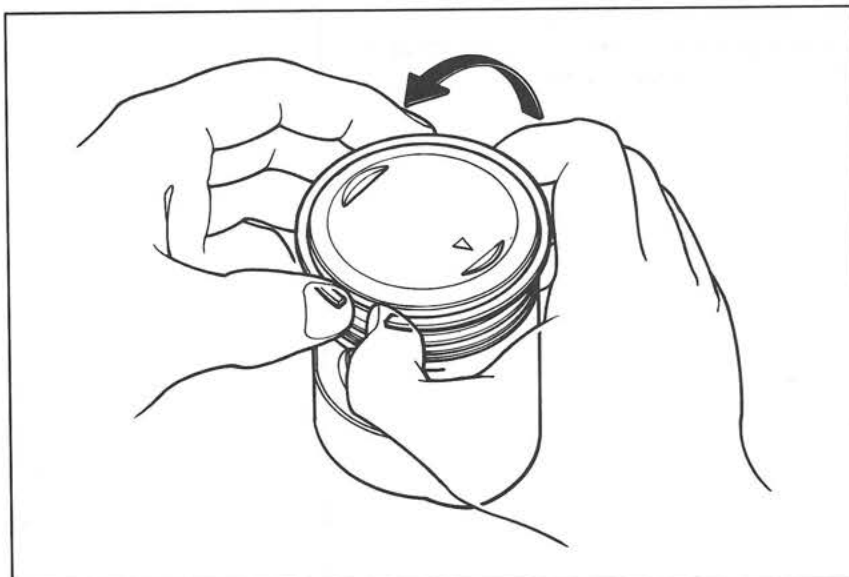


Remove the piston rings.

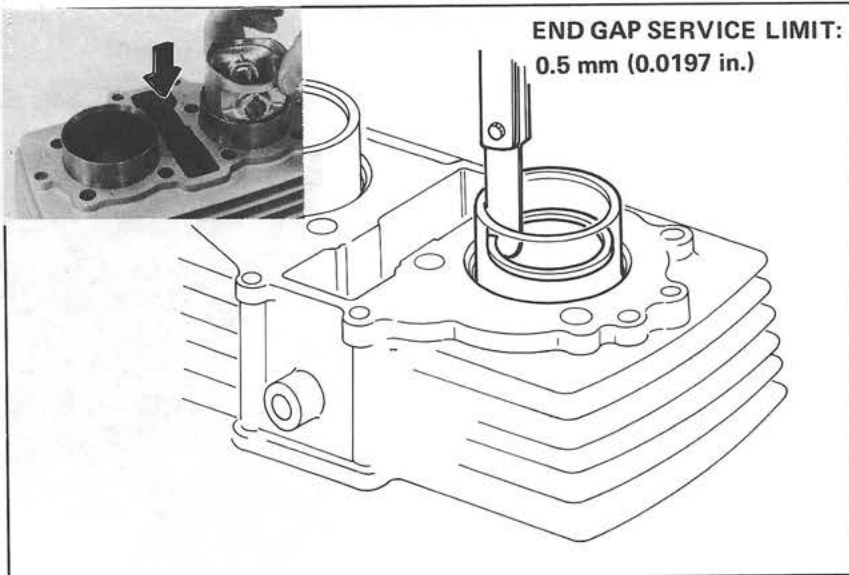
NOTE

Mark the rings so that they can be returned to their original location.

Inspect the piston for damage and cracks.
Inspect the groove for wear.



Insert each piston ring into the cylinder with the piston and inspect the end gap in the cylinder to a point 10 mm (0.4 in.) from bottom.

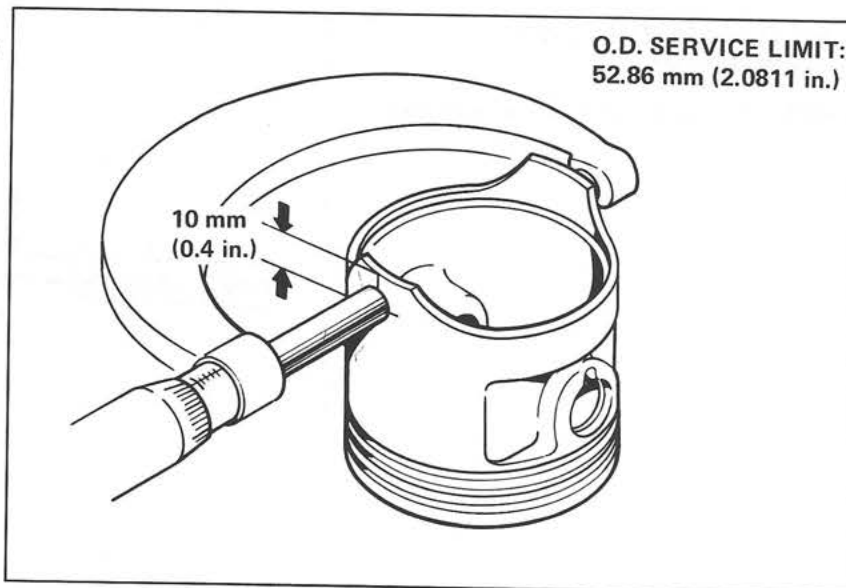




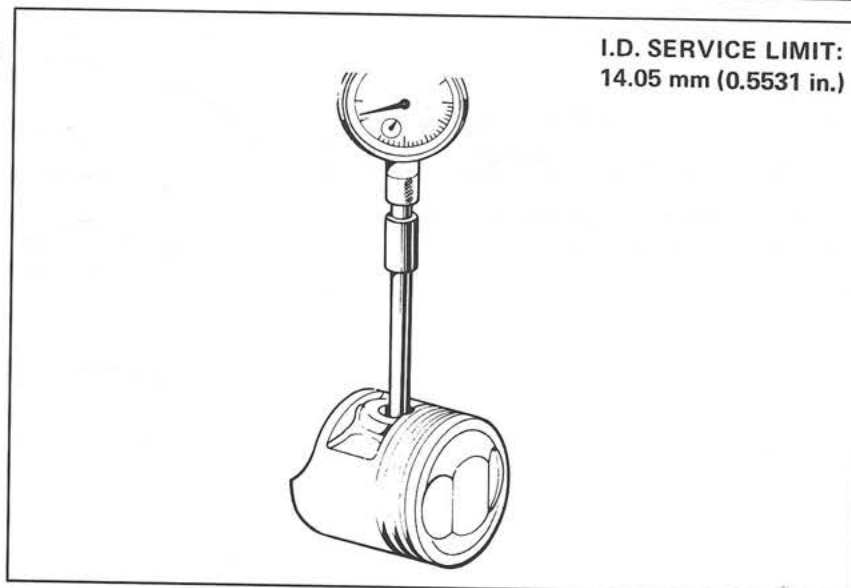
Measure the piston O.D. at the skirt.
 Measurements should be taken at a point 10 mm (0.4 in.) from the bottom.

Calculate the cylinder-to-piston clearance.

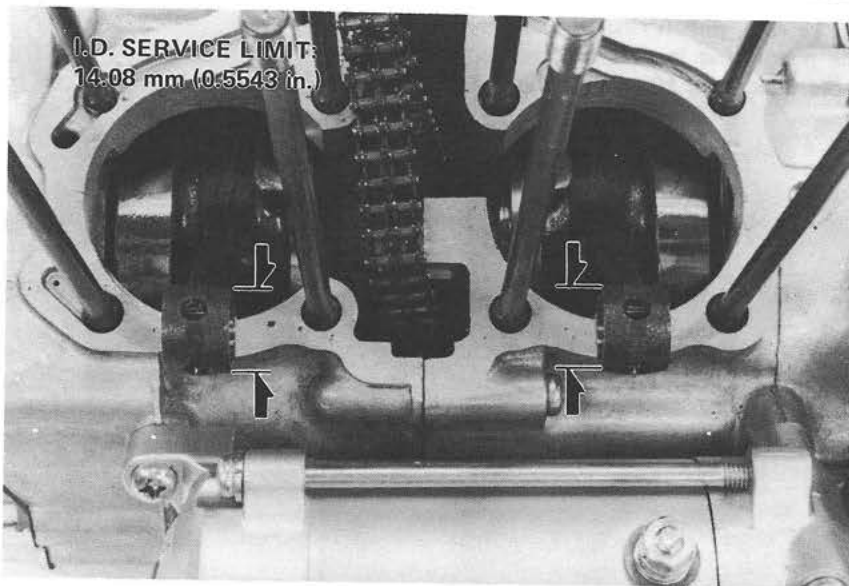
SERVICE LIMIT: 0.1 mm (0.04 in.)



Measure the piston pin hole I.D.
 Measure piston pin bore I.D. in two directions
 at right angle to each other.



Inspect the connecting rod small end I.D.

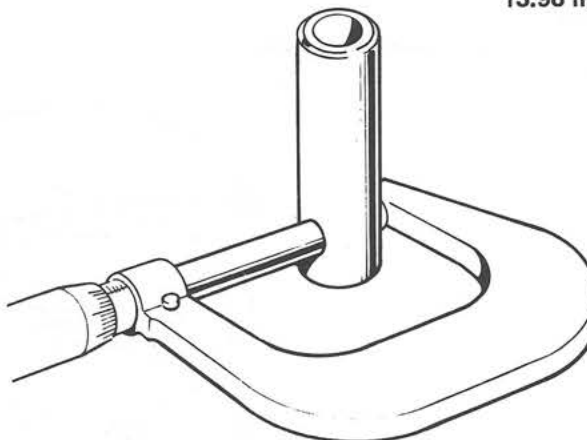




Measure the piston pin O.D.
Measure at front, center and rear and in two directions across from each other.

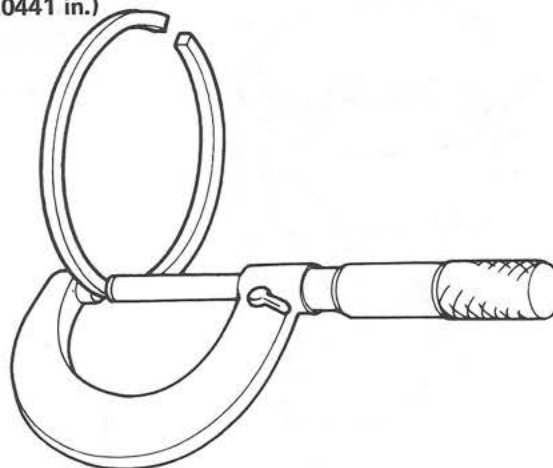
Determine the piston-to-piston pin clearance.
SERVICE LIMIT: 0.04 mm (0.0016 in.)

O.D. SERVICE LIMIT:
13.98 mm (0.5504 in.)



Measure each piston ring thickness.
Take measurements at several points.

TOP AND SECOND RING THICKNESS
SERVICE LIMIT:
1.12 mm (0.0441 in.)

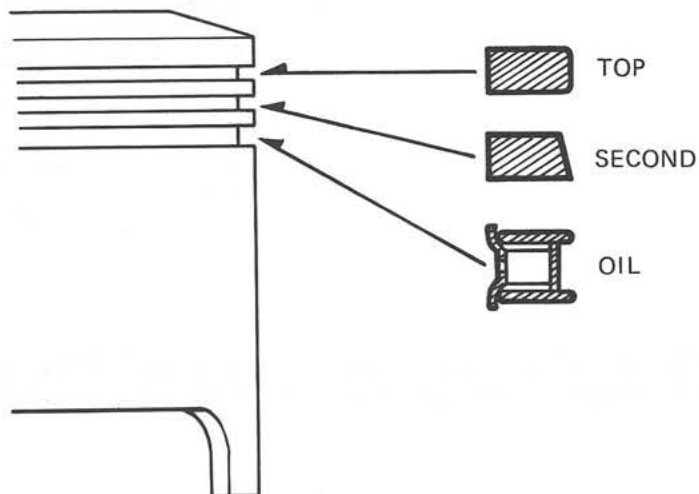


● PISTON RING INSTALLATION

Install the piston rings.

NOTE

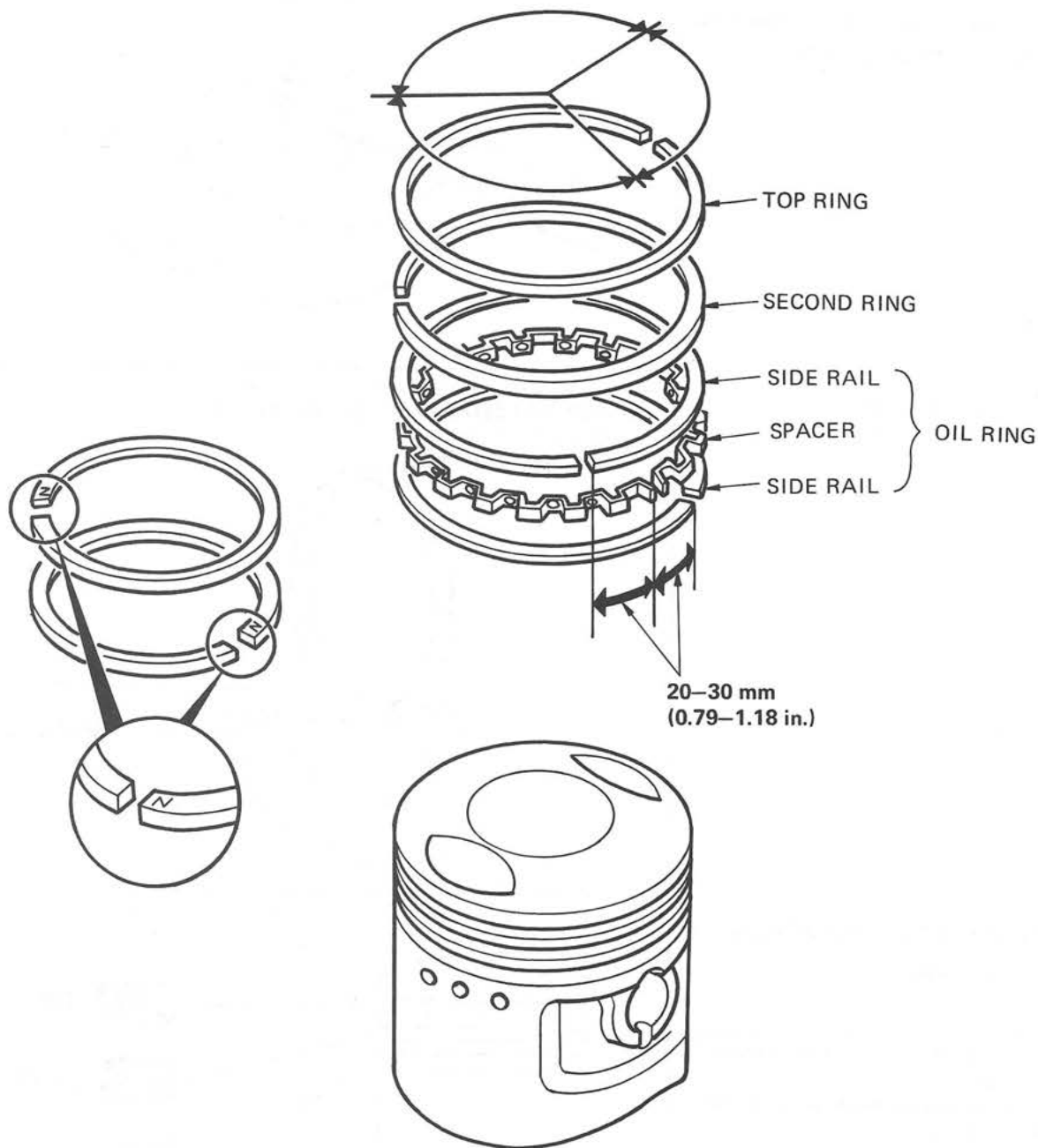
- Avoid piston and piston ring damage during installation.
- All rings should be installed with the markings facing up.
- After installation, the rings should be free to rotate in the grooves.
- Clean the ring grooves before installing the piston rings.





Space the ring gaps 120° apart. The gaps of the three-piece oil ring should correspond with the gaps of the spacer.

When installing the oil ring, install the spacer first and then the rails.

**NOTE**

- After installing each ring on the piston, turn the rings by hand to check for smooth movement.
- When installing a new ring, check that it fits smoothly into the ring groove and does not bind.

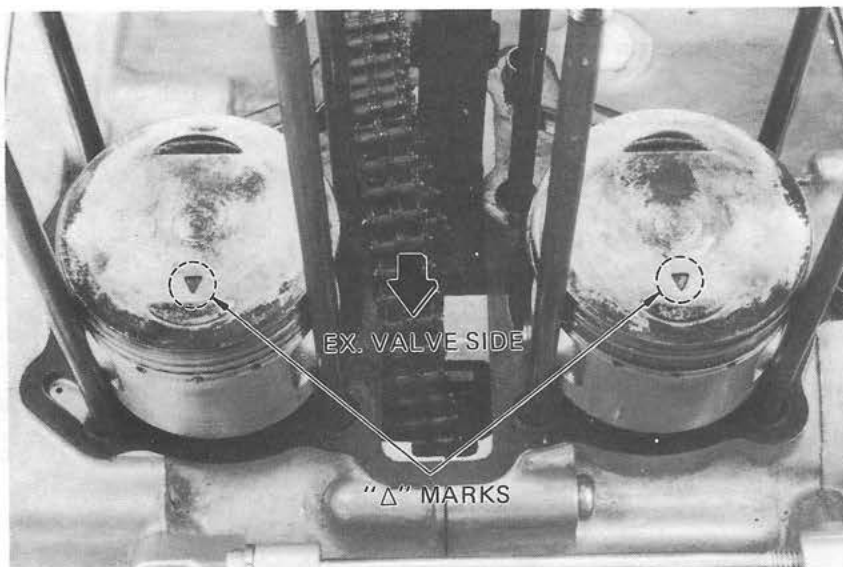


PISTON INSTALLATION

Install the piston and piston pins.

NOTE

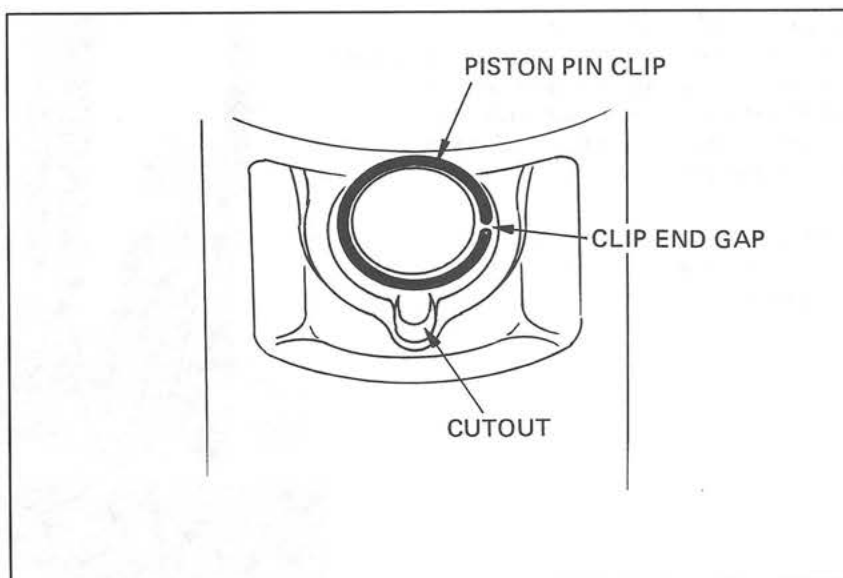
- Position the "▼" mark on the piston to the exhaust valve side.
- Install the pistons in their original locations.



Use new piston pin clips when assembling.

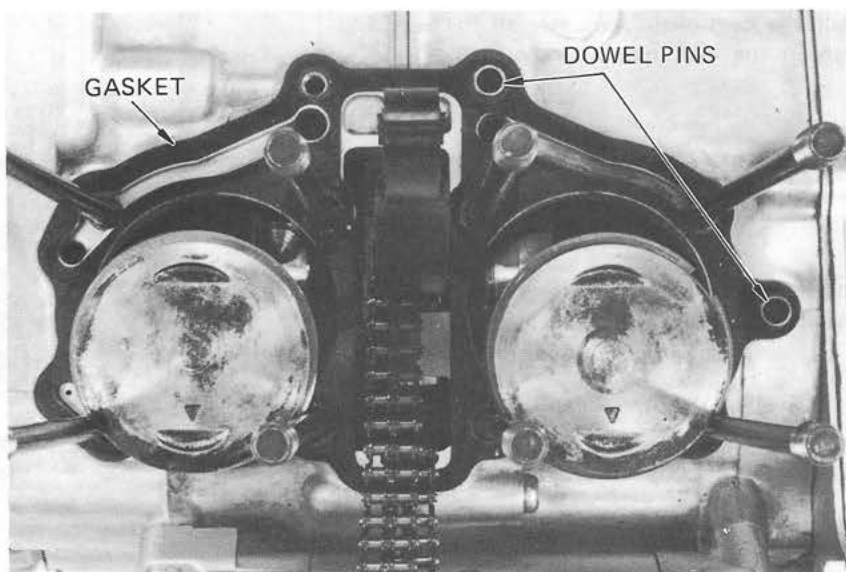
NOTE

Install with the piston pin clip end gap turned away from the cutout of the piston.



CYLINDER INSTALLATION

Install the dowel pins and the gasket.

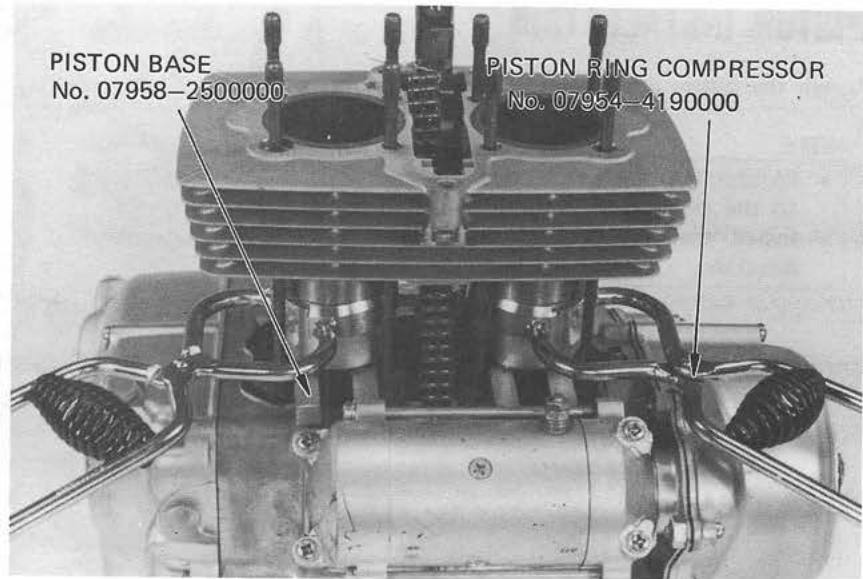




Install the cylinder while holding the piston rings with the piston ring compressors.

NOTE

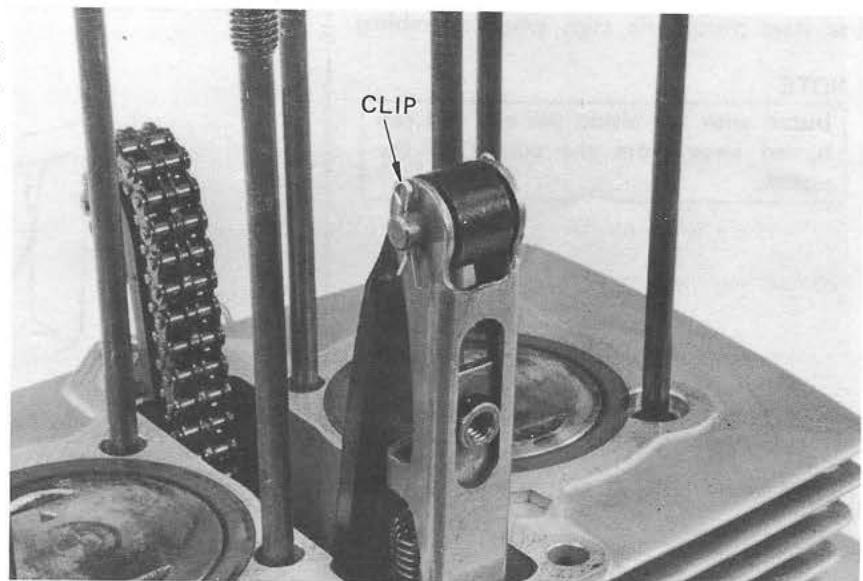
Avoid damaging the pistons and piston rings when installing the cylinder.



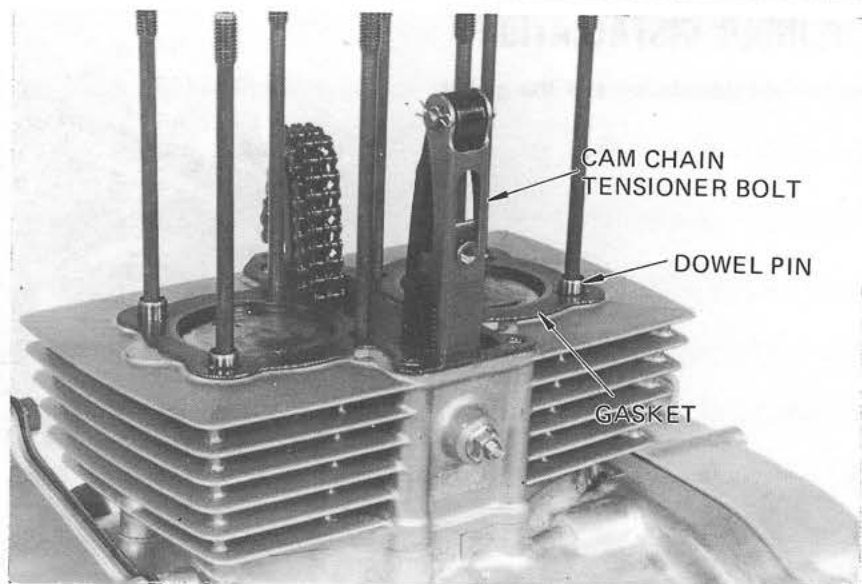
Install the cam chain guide.
 Install the cam chain tensioner base and slide the O-ring over the tensioner adjusting bolt.
 Install the plain washer and lock nut.
 Install the tensioner on the tensioner base with the pin and clips.

NOTE

Do not drop the pin or clip into the crankcase.



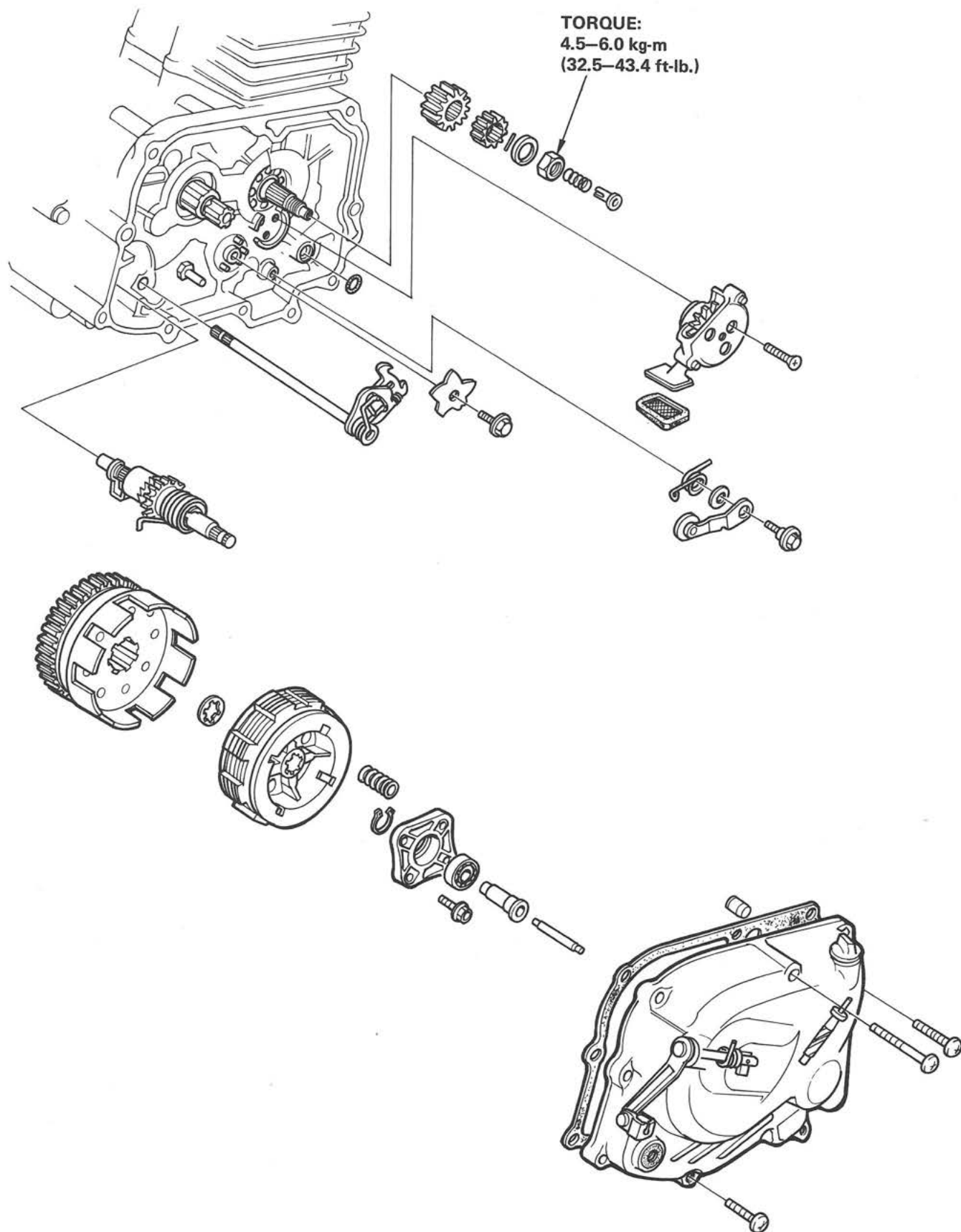
Pull the cam chain tensioner all the way and tighten the lock nut securely.



Install the dowel pins, O-rings and the gasket.
 Install the cylinder head (Refer to Section 6).



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SERVICE INFORMATION	8-1
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RIGHT CRANKCASE COVER REMOVAL	8-3
CLUTCH	8-3
OIL PUMP	8-8
GEAR SHIFT LINKAGE	8-12
KICK STARTER	8-14
RIGHT CRANKCASE COVER INSTALLATION	8-16

SERVICE INFORMATION

● WORKING PRACTICE

This section covers removal, installation and servicing of the clutch, oil pump, gear shift linkage and kick starter with the right crankcase cover removed. All these operations can be accomplished with the engine in the frame.

● TORQUE

14 mm lock nut: 4.5-6.0 kg-m (32.5-43.4 ft-lb.)

● TOOL

Special Tool

Clutch outer holder: Tool No. 07923-1070001

● SERVICE DATA

ITEMS		STANDARD	SERVICE LIMIT
Clutch	Clutch lever free play	10-20 mm (3/8-3/4 in.)	
	Clutch spring free length	36.2 mm (1.4252 in.)	33.1 mm (1.3031 in.)
	Clutch disc thickness	3.0 mm (0.1181 in.)	2.6 mm (0.1024 in.)
	Clutch plate warpage	0-0.1 mm (0-0.0039 in.)	0.2 mm (0.0079 in.)
Oil pump	Rotor tip clearance	0.15 mm (0.0059 in.)	0.2 mm (0.0079 in.)
	Rotor-to-cover clearance	0.01-0.07 mm (0.0004-0.0028 in.)	0.12 mm (0.0048 in.)
	Rotor-to-body clearance	0.15-0.18 mm (0.0059-0.0071 in.)	0.25 mm (0.0098 in.)
Kick starter	Pinion I.D.	18.020-18.041 mm (0.7094-0.7103 in.)	18.07 mm (0.7114 in.)
	Spindle O.D.	17.959-17.980 mm (0.7070-0.7079 in.)	17.93 mm (0.7059 in.)



TROUBLESHOOTING

Faulty clutch operation can usually be corrected by adjusting the free play.

Clutch Slips When Accelerating

1. No free play
2. Discs worn
3. Springs weak

Clutch Will Not Disengage

1. Too much free play
2. Plate warped

Motorcycle Creeps With Clutch Disengaged

1. Too much free play
2. Plates warped

Excessive Lever Pressure

1. Clutch cable kinked, damaged or dirty
2. Lifter mechanism damaged

Clutch Operation Feels Rough

1. Outer drum slots rough

Hard Shifting

1. Stopper plate bent or worn
2. Improper clutch adjustment

Gear Shift Pedal Won't Return

1. Return spring broken
2. Shift spindle interfering with crankcase or cover

Jumps Out Of Gear

1. Stopper arm spring broken or weak

Low Oil Pressure

1. Plugged oil filter screen
2. Oil pump rotors worn
3. External oil leaks
4. Oil level low

High Oil Pressure

1. Incorrect oil being used
2. Plugged oil filter screen, gallery or metering orifice

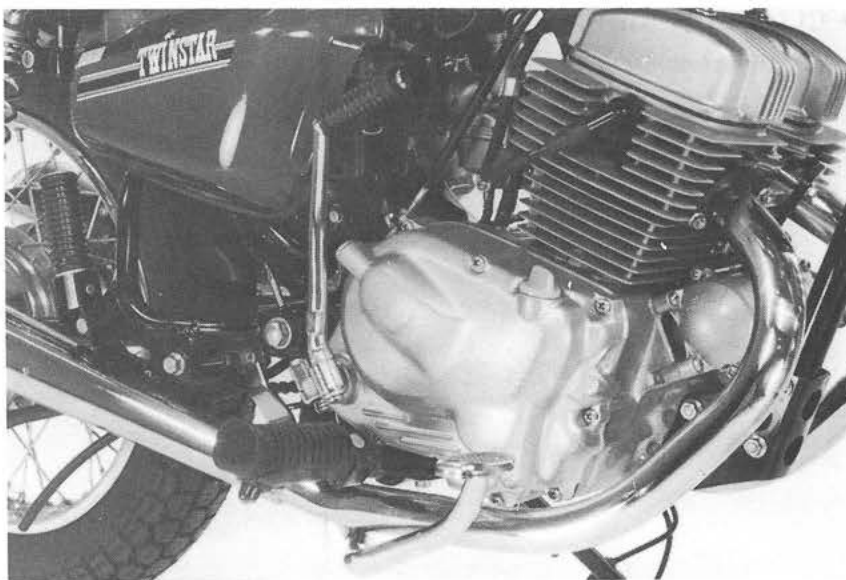
No Oil Pressure

1. Oil pump drive gear broken
2. Oil pump assy broken
3. Leaks from oil circuit



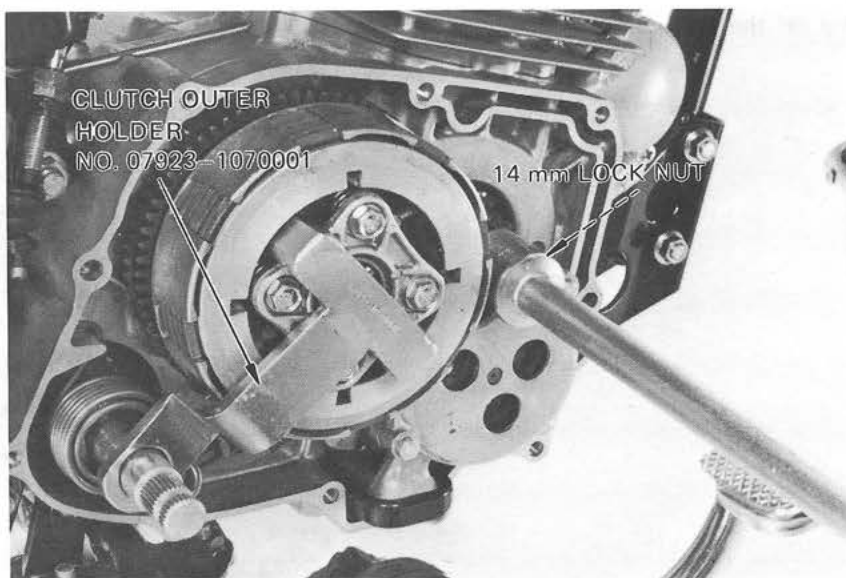
RIGHT CRANKCASE COVER REMOVAL

Drain all oil from the engine.
Disconnect the clutch cable at the engine.
Remove the right muffler assembly.
Remove the kick starter pedal.
Remove the right crankcase cover by removing the screws.



CLUTCH

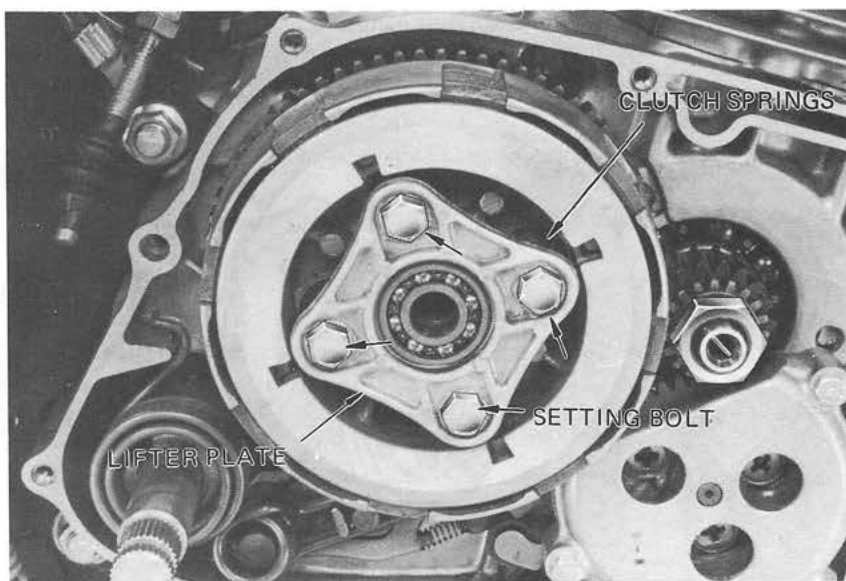
Install the clutch holder on the lifter plate and into kick spindle and remove the 14 mm lock nut.
Remove the pin, lock washer and oil pump drive gear.



Remove the four lifter plate setting bolts, the lifter plate and the four clutch springs.

NOTE

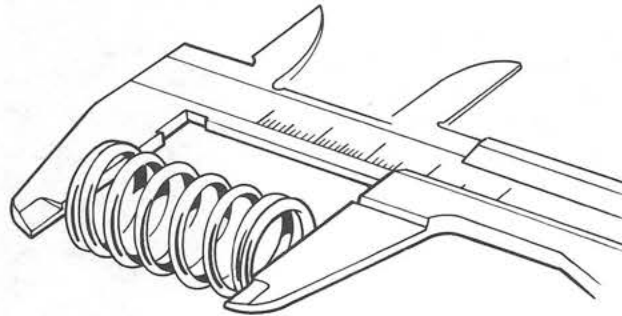
Loosen the bolts in an X pattern in two or more steps.



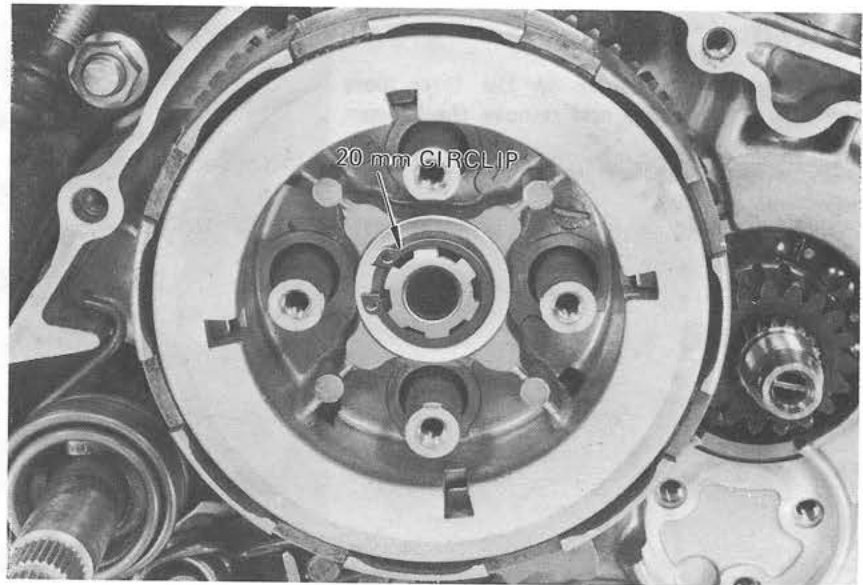
**● CLUTCH SPRING INSPECTION**

Inspect the clutch spring free length.

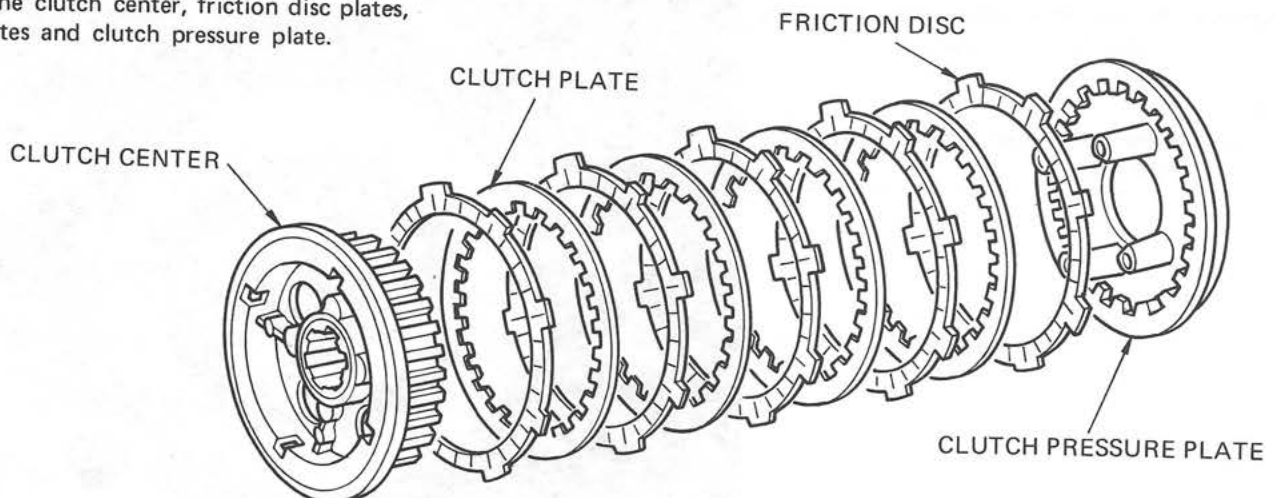
SERVICE LIMIT: 33.1 mm (1.3031 in.)



Pry off the 20 mm circlip.



Remove the clutch center, friction disc plates, clutch plates and clutch pressure plate.

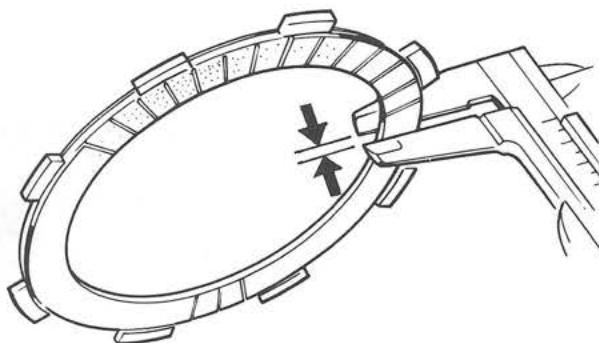




- **CLUTCH FRICTION DISC INSPECTION**

Check the friction discs, replacing those which are discolored or worn.
Measure each friction disc thickness.

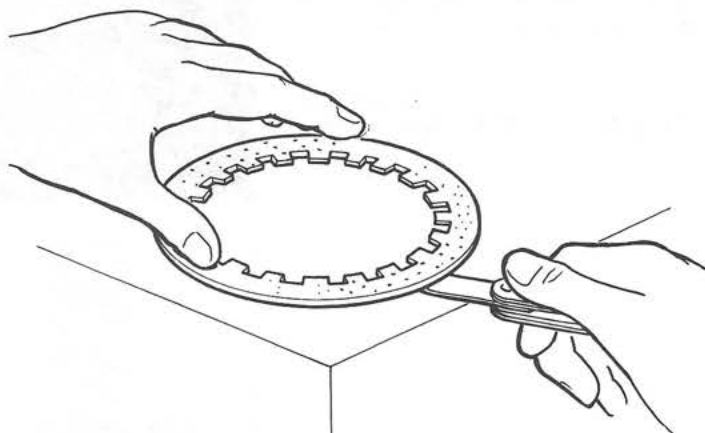
SERVICE LIMIT: 2.6 mm (0.1024 in.)



- **CLUTCH PLATE INSPECTION**

Check the plates for warpage on a surface plate and with a feeler gauge.

SERVICE LIMIT: 0.2 mm (0.0079 in.)

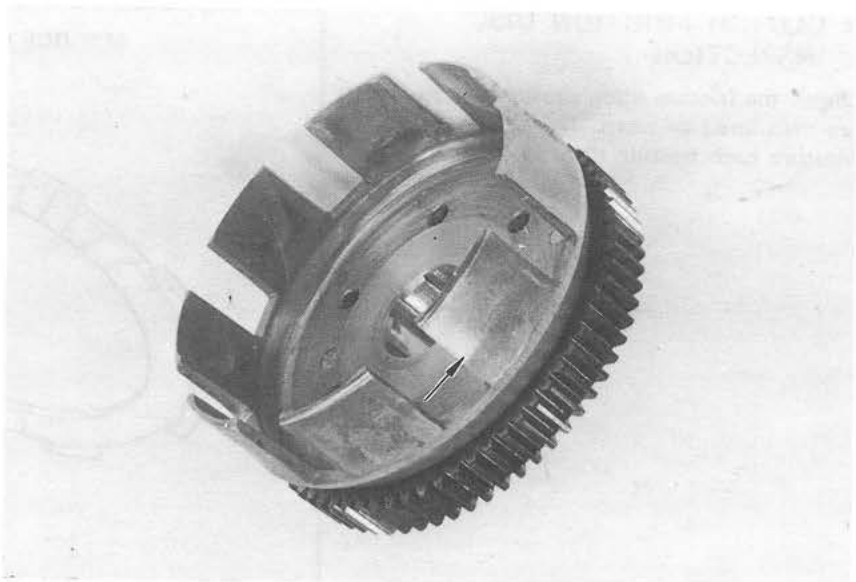


Remove the splined washer on the clutch outer.
Remove the drive gear.



**● CLUTCH OUTER INSPECTION**

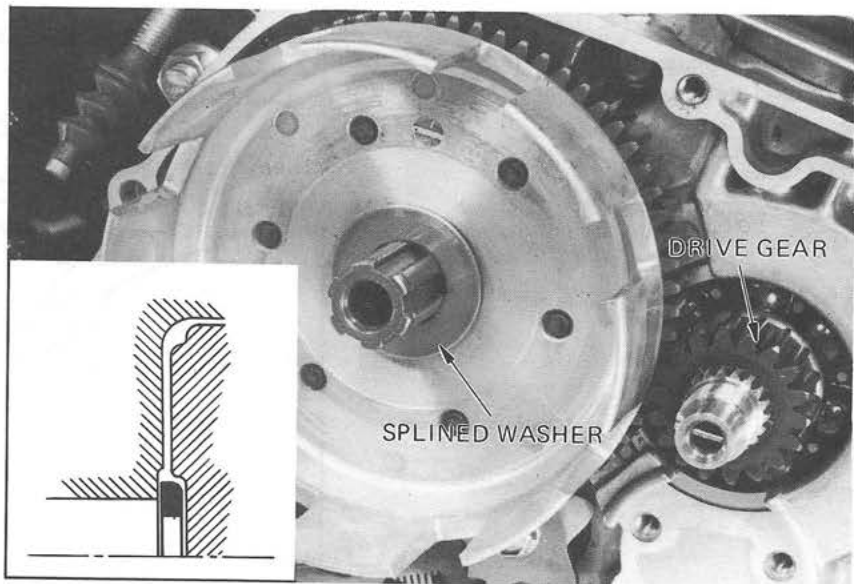
Check the slots in the clutch outer for nicks, cuts or indentations made by the friction discs.

**● CLUTCH REASSEMBLY**

Install the drive gear and the clutch outer.
Install the splined washer.

NOTE

Note the direction of the splined washer.



Assemble the pressure plate, the friction discs and the clutch center.

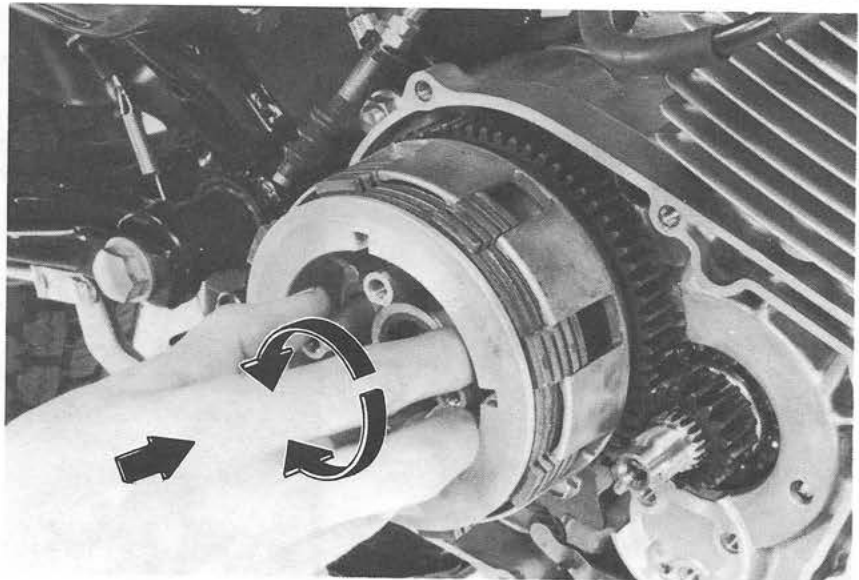
NOTE

Lubricate new clutch discs with thin oil before assembling.

Install them in the clutch outer.

NOTE

Install the clutch assy while holding the pressure plate and clutch center and turning it.





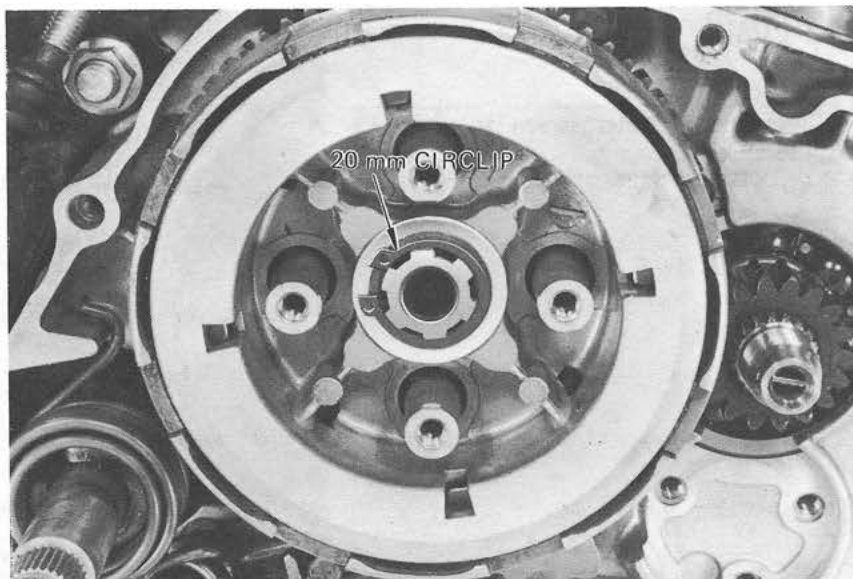
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CLUTCH/OIL PUMP/GEAR SHIFT/KICK STARTER

Install the 20 mm circlip.
Install the springs and lifter plate and tighten the bolts.

NOTE

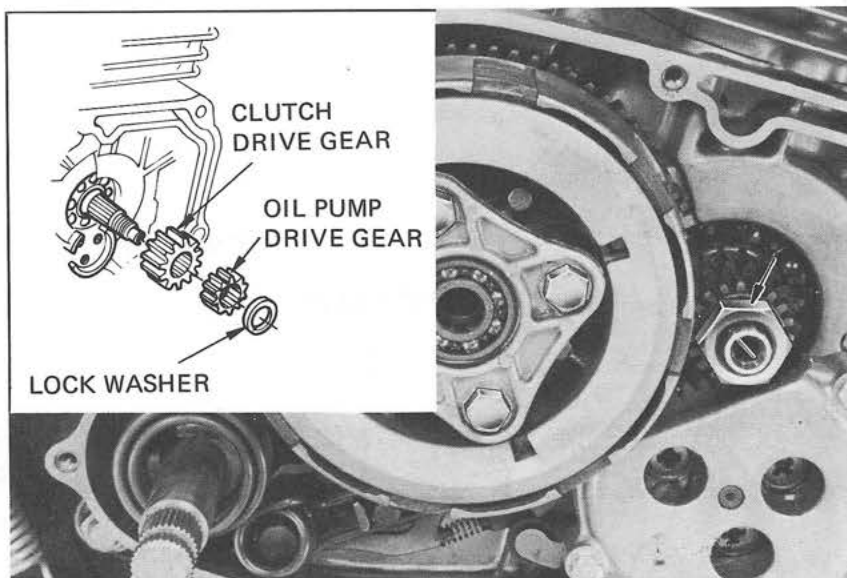
Tighten the bolts in two or more steps and in cross pattern.



Install the clutch drive gear and oil pump drive gear.
Install the lock washer and pin.

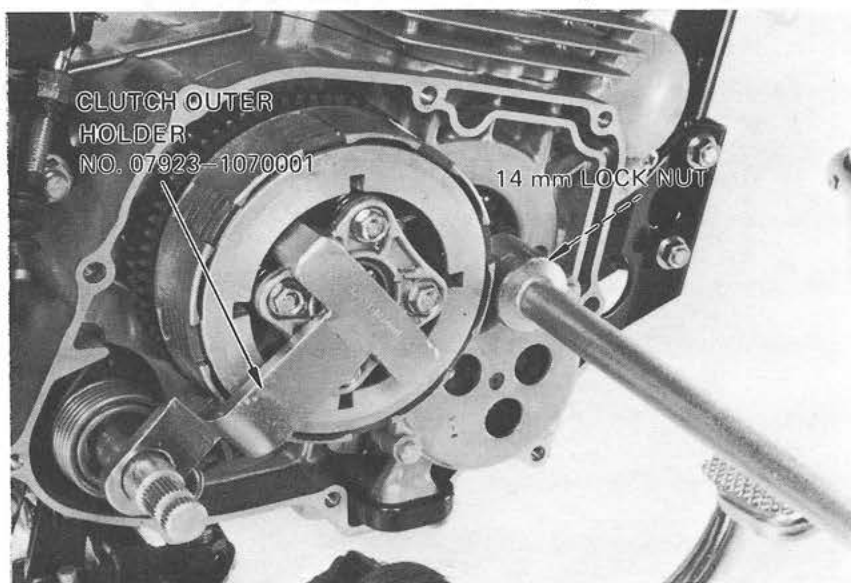
NOTE

Install the washer with the word "OUT-SIDE" facing the right side.



Tighten the 14 mm lock nut.

TORQUE: 4.5–6.0 kg-m (32.5–43.4 ft-lb.)

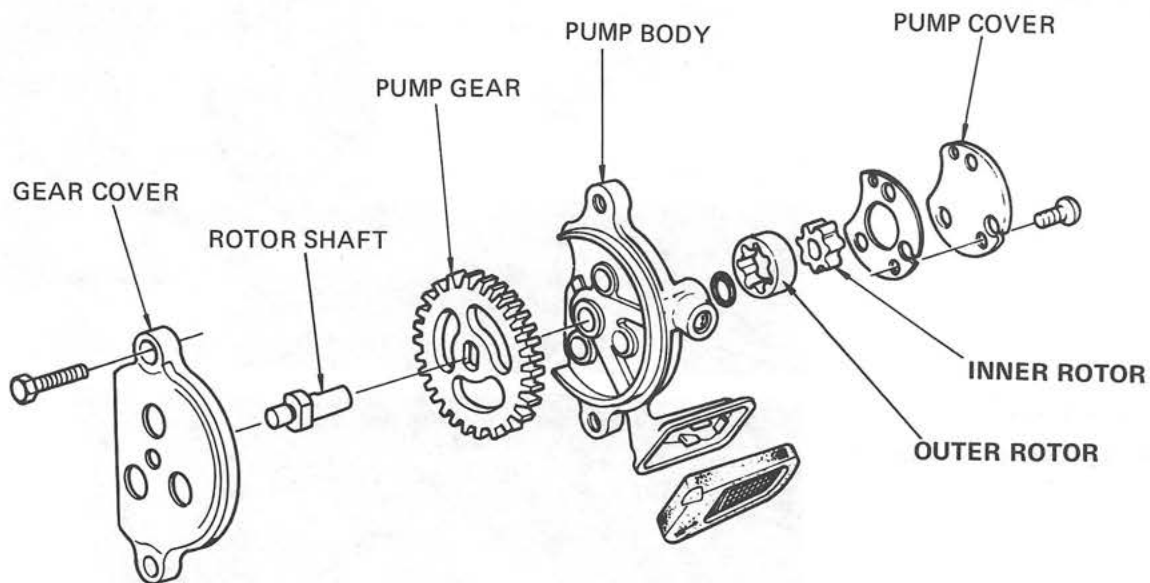
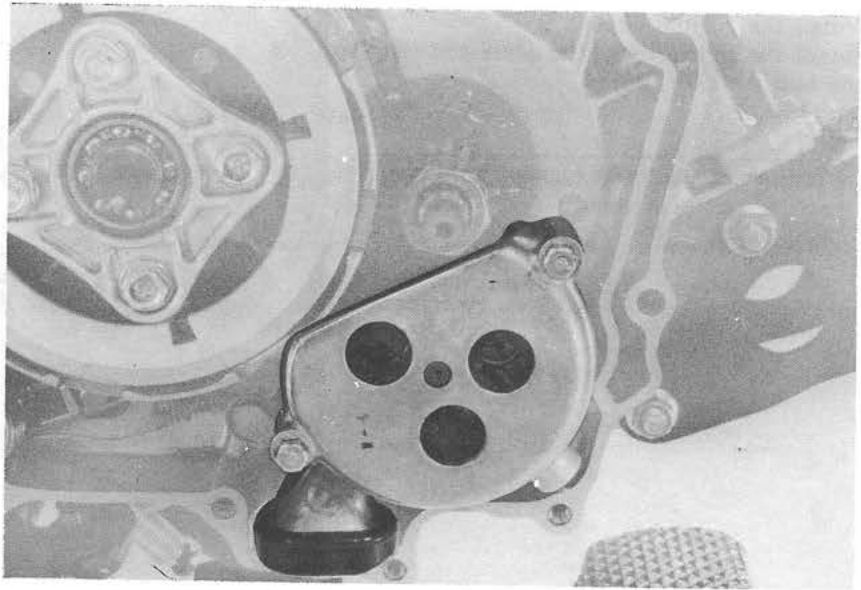




OIL PUMP

NOTE

Clean the oil filter screen at time of disassembly.

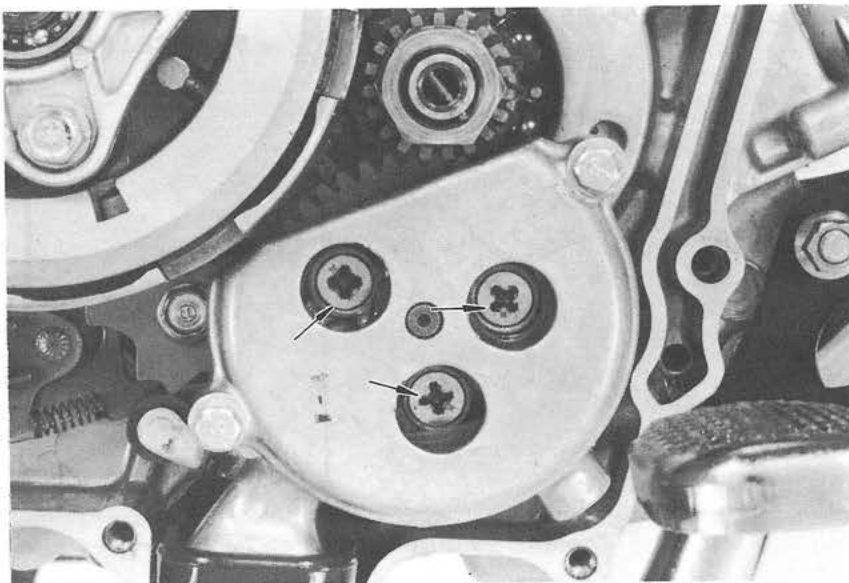




● **OIL PUMP REMOVAL**

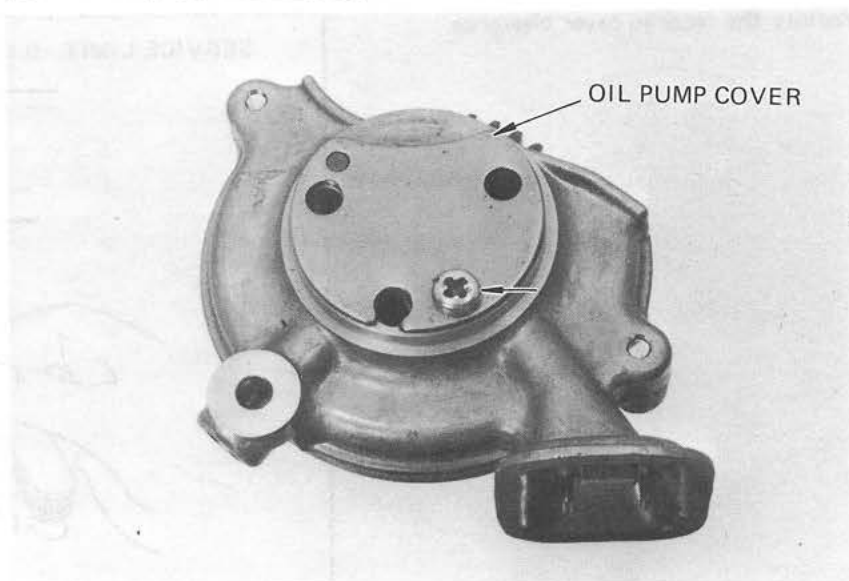
Remove the generator cover and rotate the A.C. generator rotor counterclockwise until the cut-out of the oil pump gear aligns with the mounting screws.

Remove the three screws, and remove the oil pump.



● **OIL PUMP DISASSEMBLY**

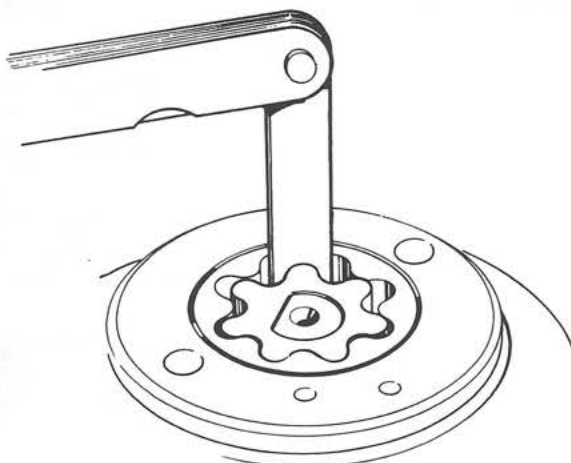
Remove the oil pump cover.



● **OIL PUMP INSPECTION**

Measure the rotor tip clearance.

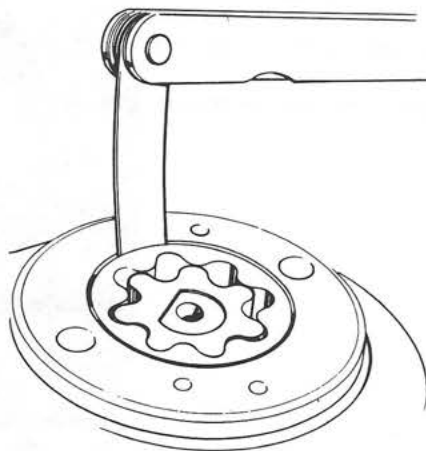
SERVICE LIMIT: 0.2 mm (0.0079 in.)





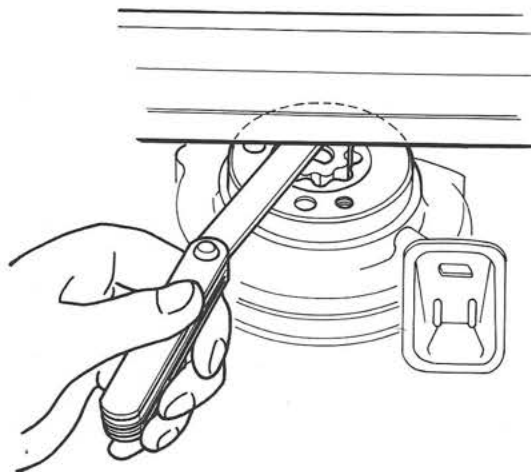
Measure the rotor-to-body clearance.

SERVICE LIMIT: 0.25 mm (0.0098 in.)



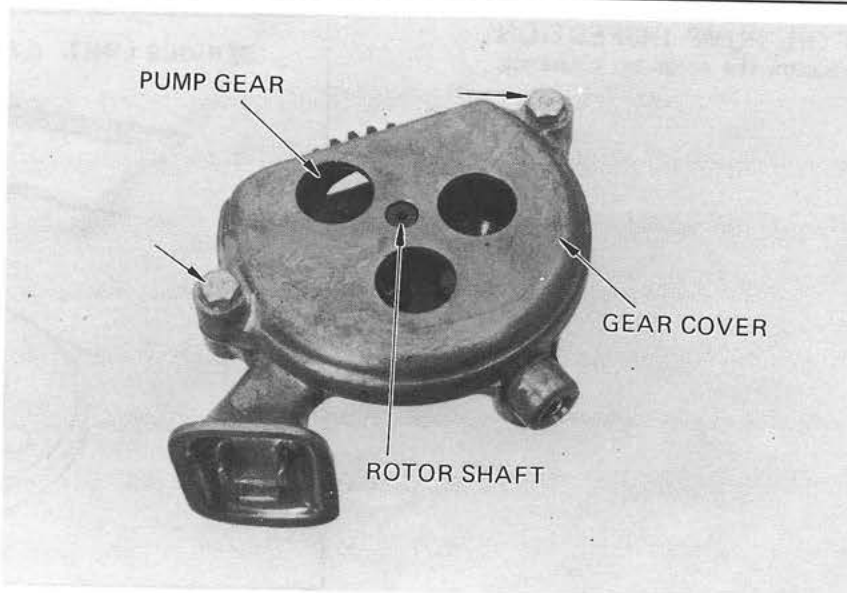
Measure the rotor-to-cover clearance.

SERVICE LIMIT: 0.12 mm (0.0048 in.)



Remove the rotors.

Remove the gear cover and the pump gear and pull the rotor shaft out.





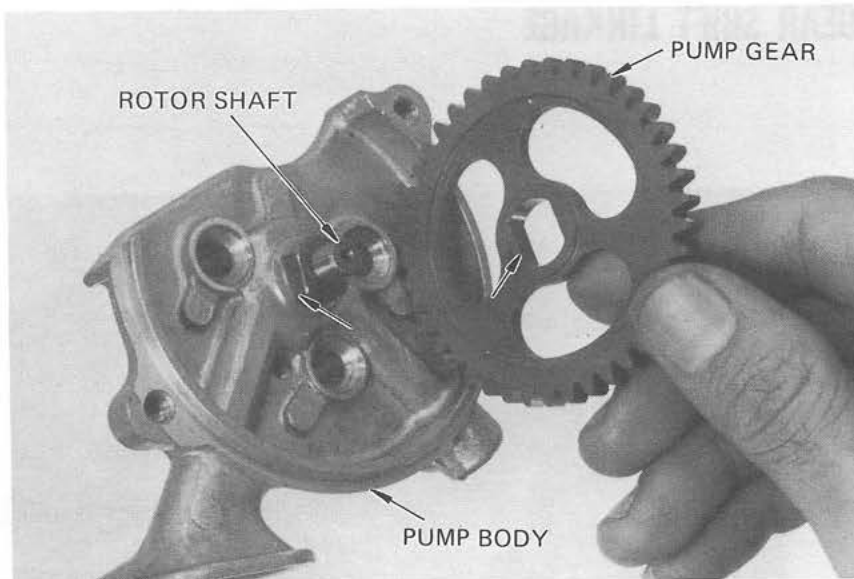
● OIL PUMP REASSEMBLY

Install the rotor shaft and the pump gear into the pump body.

NOTE

Align the pump gear cutout with the rotor shaft cutout.

Install the gear cover.

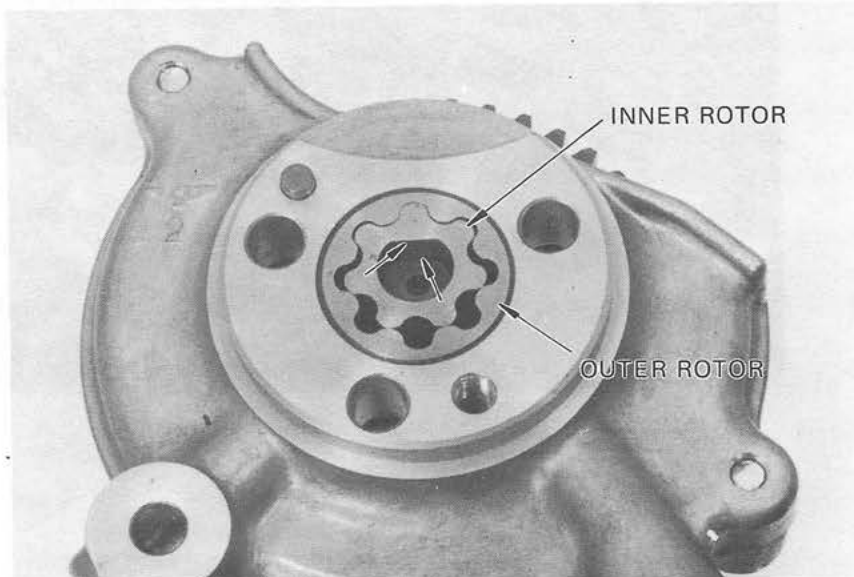


Install the inner and outer rotors.

NOTE

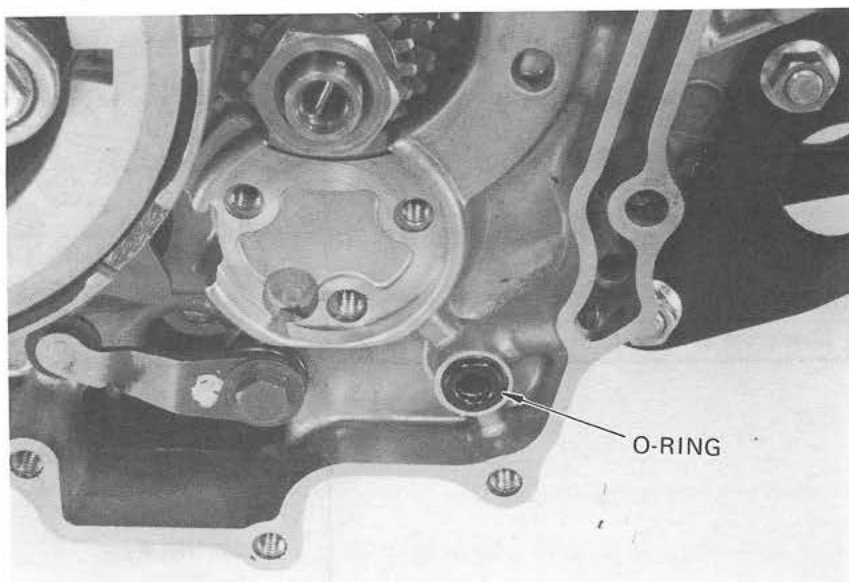
Align the inner rotor cutout with the rotor shaft cutout.

Install the gasket and cover.
Check for smooth operation.



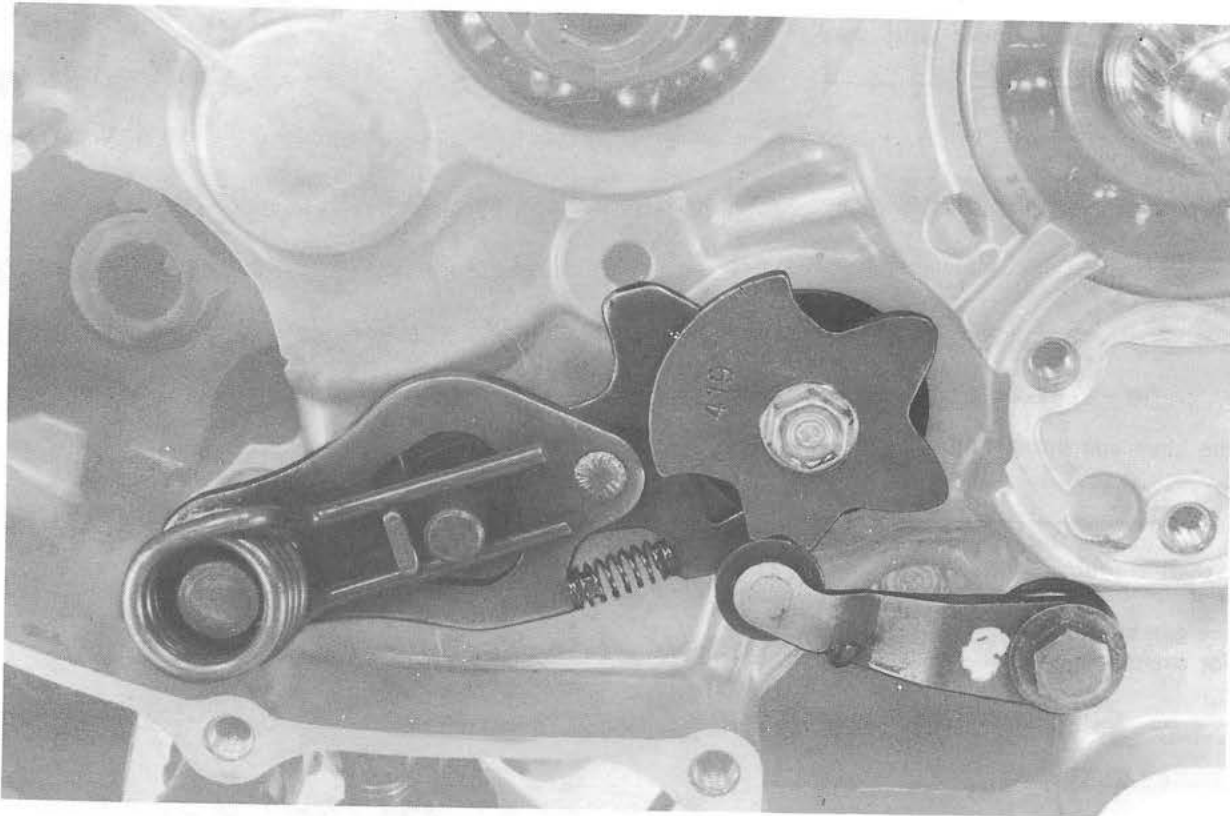
● OIL PUMP INSTALLATION

Install the new O-ring correctly and install the oil pump.





GEAR SHIFT LINKAGE

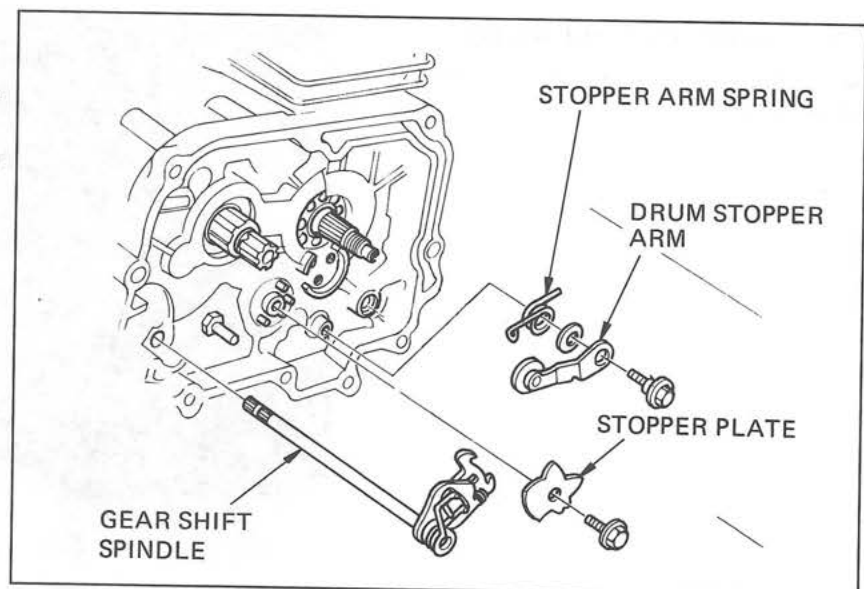


• DISASSEMBLY

- Remove the clutch.
- Remove the gear shift pedal and the stopper arm.
- Remove the stopper plate and the shift drum pins.
- Remove the gear shift spindle.

NOTE

Check the each part for wear or damage.





● **ASSEMBLY**

Install the gear shift spindle.

NOTE

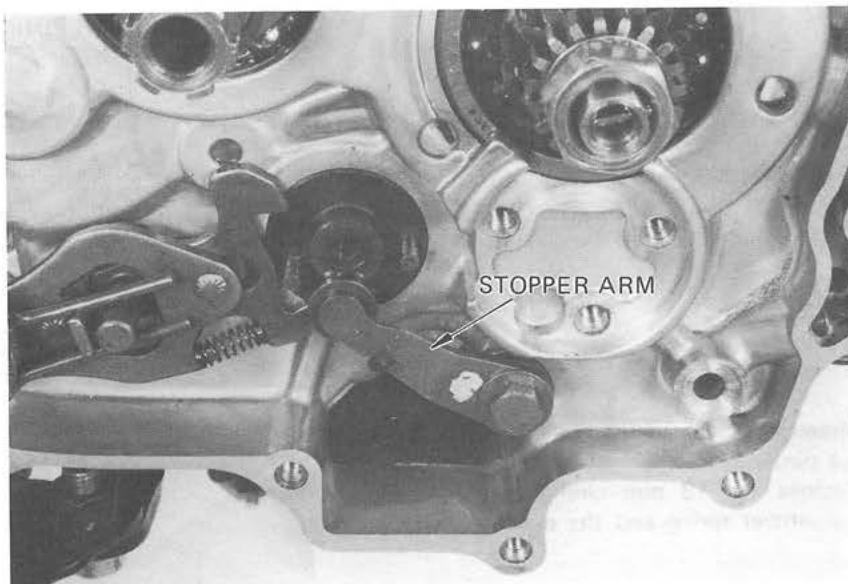
Insert the end of the return spring around the return spring pin.



Install the stopper arm.

NOTE

Install the spring as shown.
After installing, check stopper arm operation.



Install the stopper plate.

NOTE

Insert pin into hole of the stopper.

Tighten the stopper plate setting bolt.

NOTE

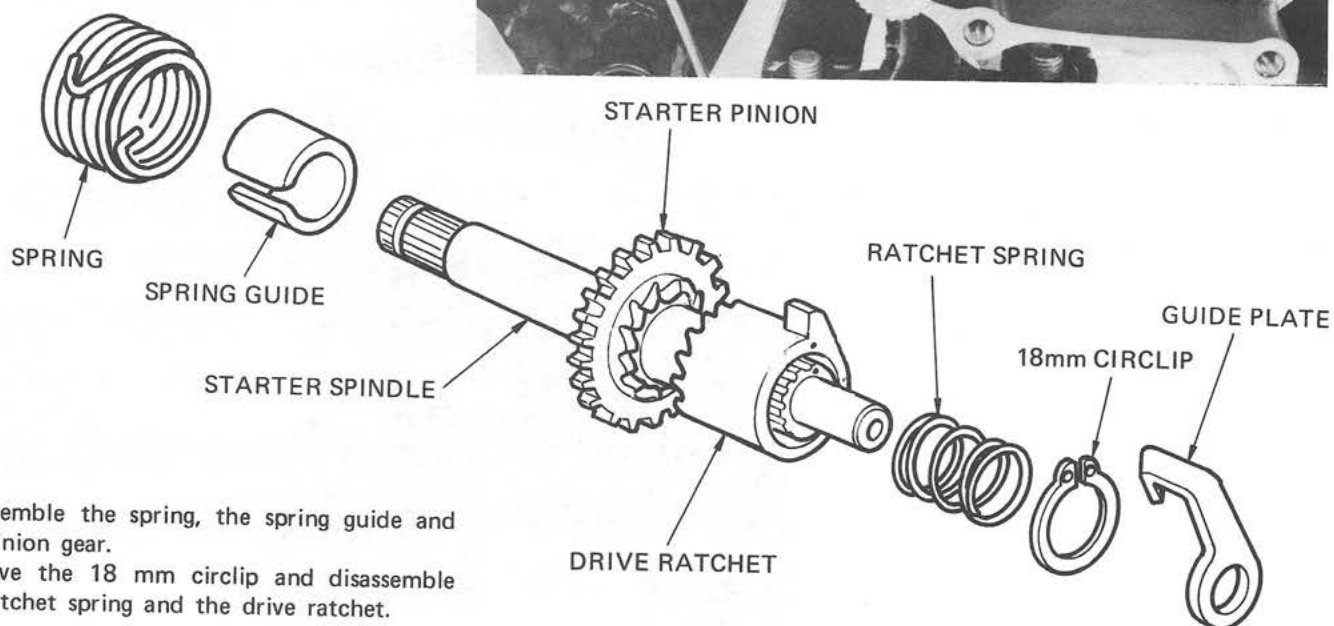
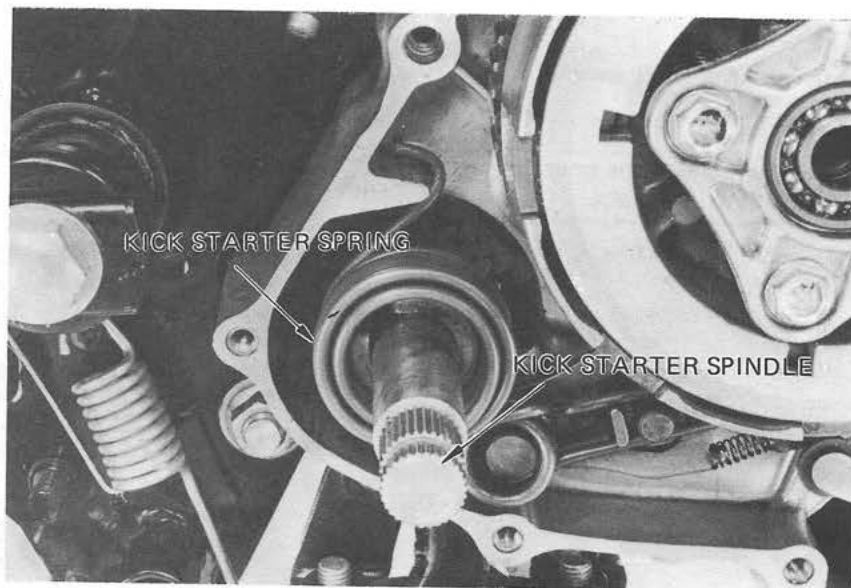
After reassembly, check for operation.





KICK STARTER

Pull the kick starter spring out and remove the kick starter.



Disassemble the spring, the spring guide and the pinion gear.
 Remove the 18 mm circlip and disassemble the ratchet spring and the drive ratchet.

● KICK STARTER PINION INSPECTION

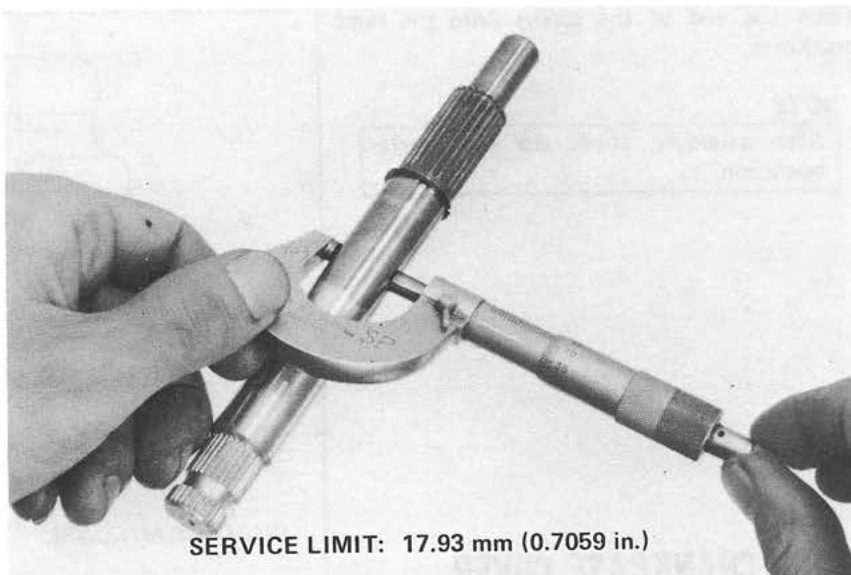
Measure the kick starter pinion I.D.

I.D. SERVICE LIMIT:
18.07 mm (0.7114 in.)





Measure the kick starter pinion O.D. with a micrometer.



SERVICE LIMIT: 17.93 mm (0.7059 in.)

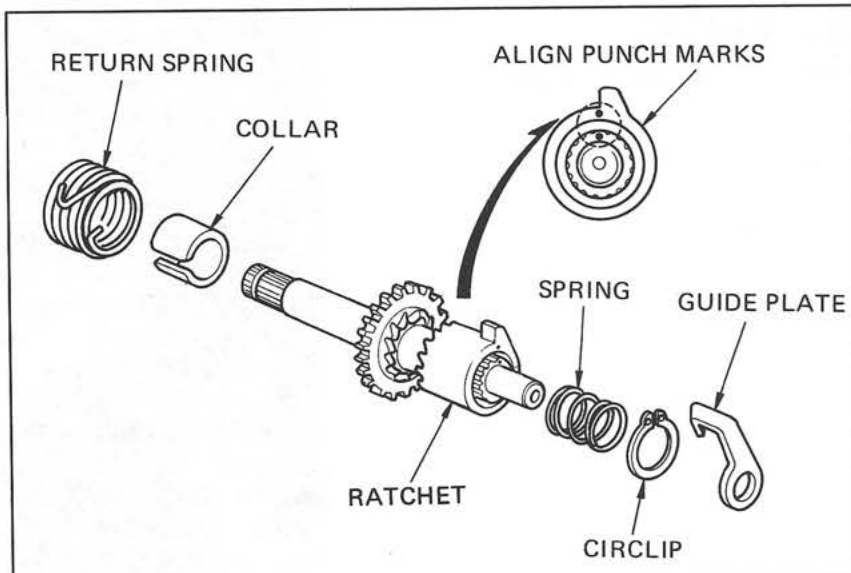
● KICK STARTER ASSEMBLY

Assemble the ratchet and the spring onto the spindle.

NOTE

Align the punch marks.

Insert the circlip in the groove of the spindle. Assemble the guide plate, the collar and the return spring on the spindle.

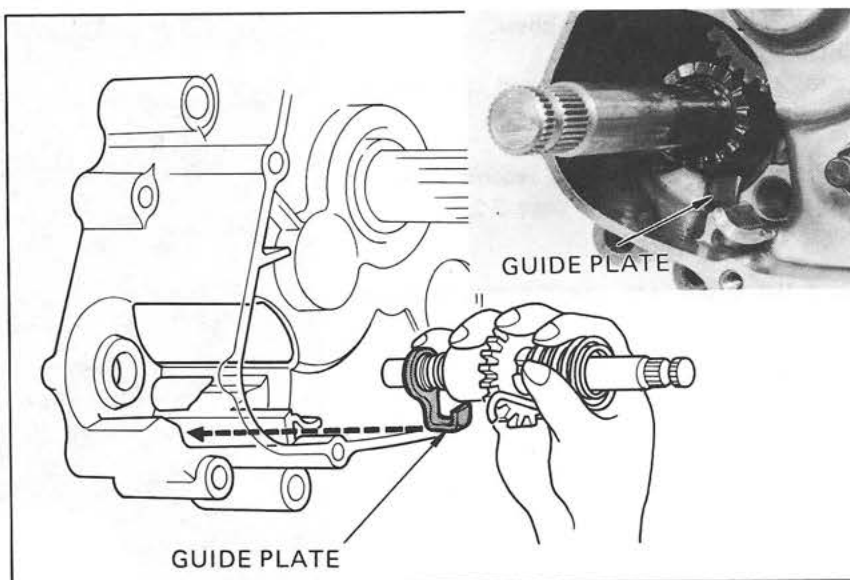


● KICK STARTER INSTALLATION

Install the kick starter.

NOTE

Set the guide plate in the groove on the right crankcase.

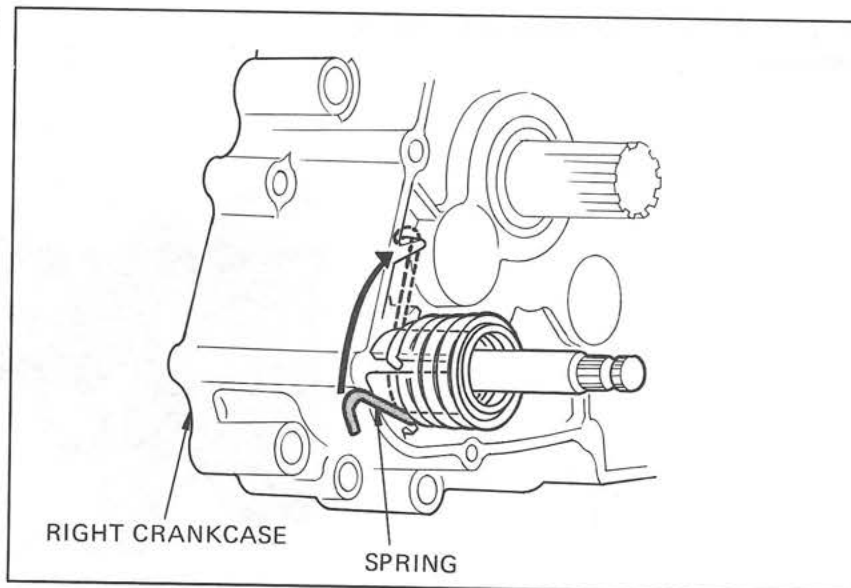




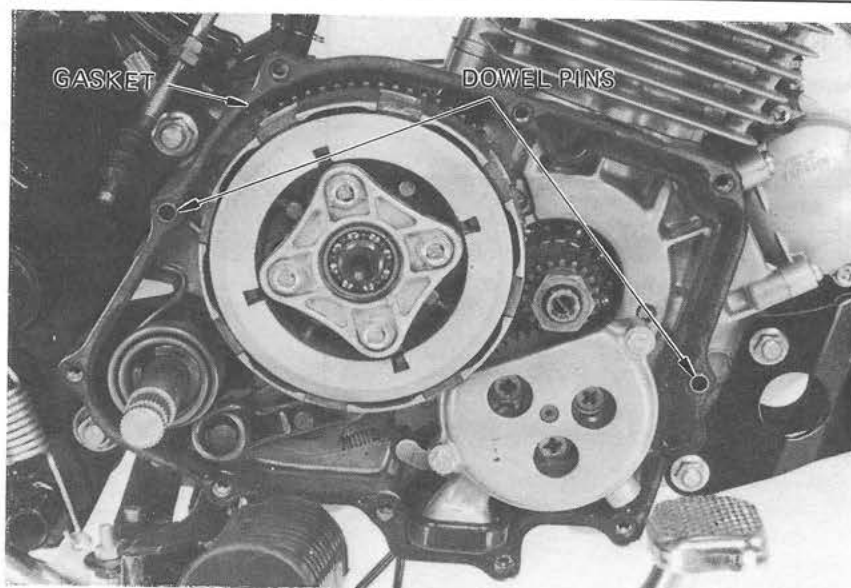
Hook the end of the spring onto the right crankcase.

NOTE

After assembly, check the kick starter operation.

**RIGHT CRANKCASE COVER
INSTALLATION**

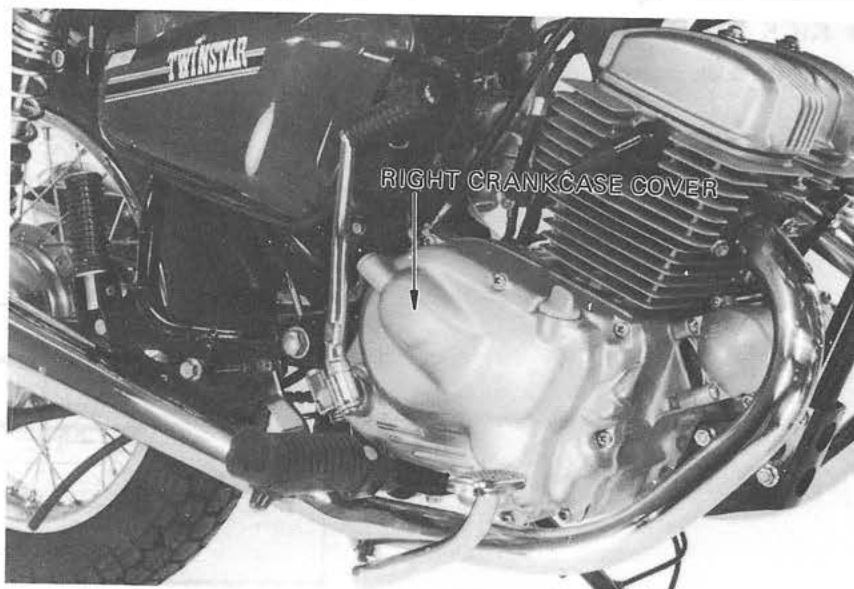
Install the dowel pins and gasket.



Install the right crankcase cover.
Connect the clutch cable.
Install the kick starter pedal and right muffler.

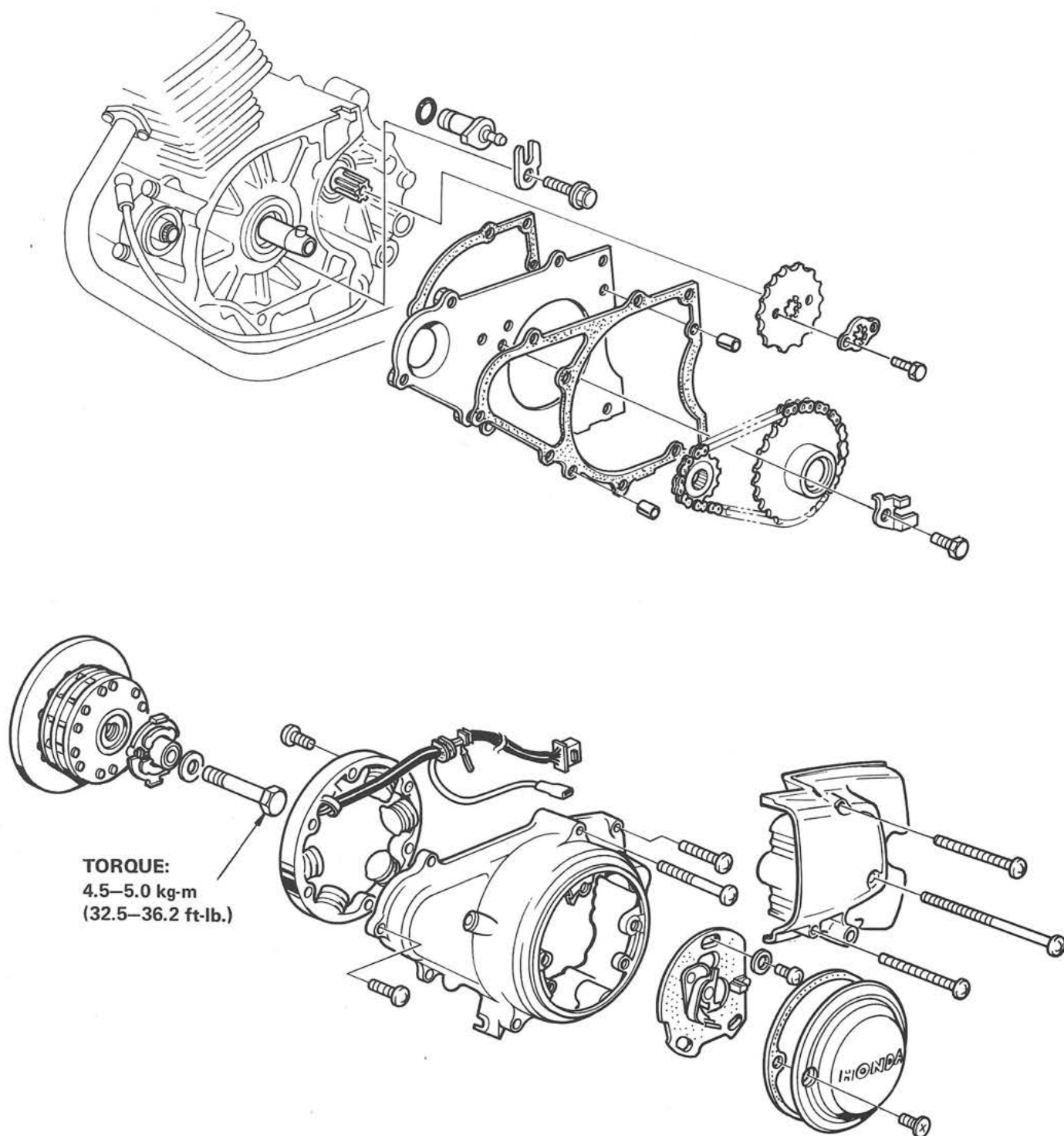
Refill the engine with the recommended oil
and check for level. (See page 2-2.)

Start the engine and check clutch operation.





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SERVICE INFORMATION	9-1
TROUBLESHOOTING	9-2
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SERVICE INFORMATION

● WORKING PRACTICE

This section covers removal, installation and servicing of the contact breaker, A.C. generator, starter clutch and starter motor with the left crankcase cover removed. All these operations can be accomplished with the engine in the frame.

● TOOLS

Special Tool

Clutch outer holder: Tool No. 07923-1070001

Common Tools

Rotor puller: Tool No. 07733-0020000

Universal holder: Tool No. 07725-0010101

● TORQUE

Rotor bolt: 4.5-5.0 kg-m (32.5-36.2 ft-lb.)



TROUBLESHOOTING

Engine Cranks But Will Not Start

1. Improper ignition timing
2. No spark at plugs

No Spark At Plugs

1. Points burned, wet, fauled or dirty
2. Improper point gap
3. Breaker wire open or shorted
4. Faulty stator coils
5. Faulty A.C. generator
6. Faulty ignition switch
7. Faulty ignition coil
8. Faulty high tension cord
9. Faulty spark plug

Engine Starts But Runs Poorly

1. Worn spark plug/or breaker points
2. Incorrect point gap
3. Improper ignition timing
4. Faulty advance mechanism

Starter Motor Will Not Turn

1. Loose or disconnected wire or cable
2. Faulty starter motor

Starter Motor Turns Engine Slowly

1. Binding in starter motor, drive chain or drive sprocket

Starter Motor Turns But Engine Does Not Turn

1. Faulty starter clutch
2. Faulty starter motor planetary gear
3. Drive chain or sprocket broken

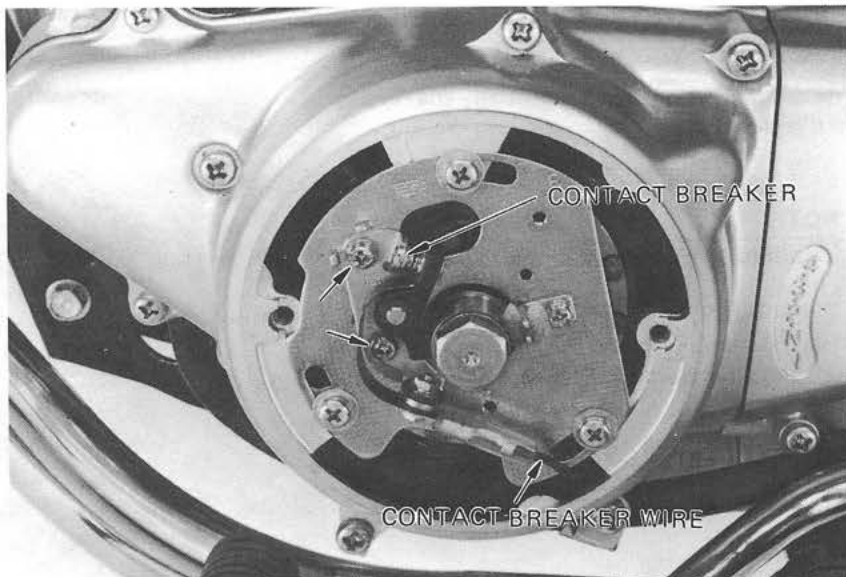
Starter Motor And Engine Turn But Engine Does Not Start

1. Ignition circuit problems

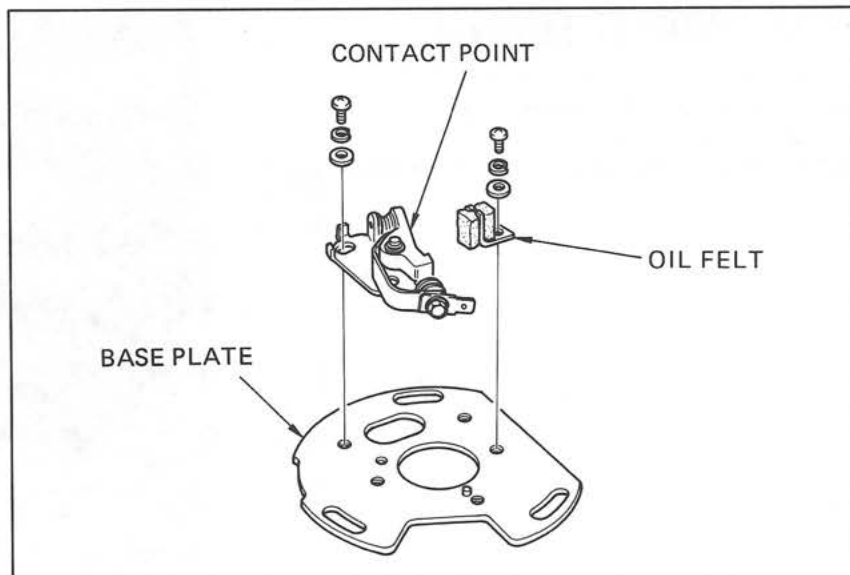


CONTACT BREAKER DISASSEMBLY

Remove the A.C. generator cover and gasket.
Remove the base plate attaching screws.
Disconnect the breaker point wire.



Remove the breaker point attaching screws.
Remove the oil felt attaching screw.

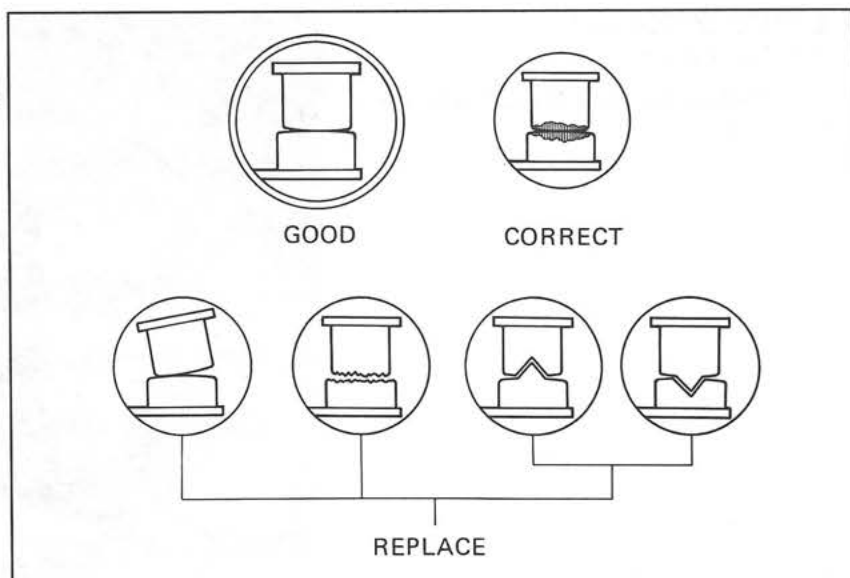


● CONTACT BREAKER POINT INSPECTION

Inspect the contact point surface for wear or pitting.

NOTE

Clean with point file or grind stone if the point surface is dirty.
Replace badly worn or pitted points.





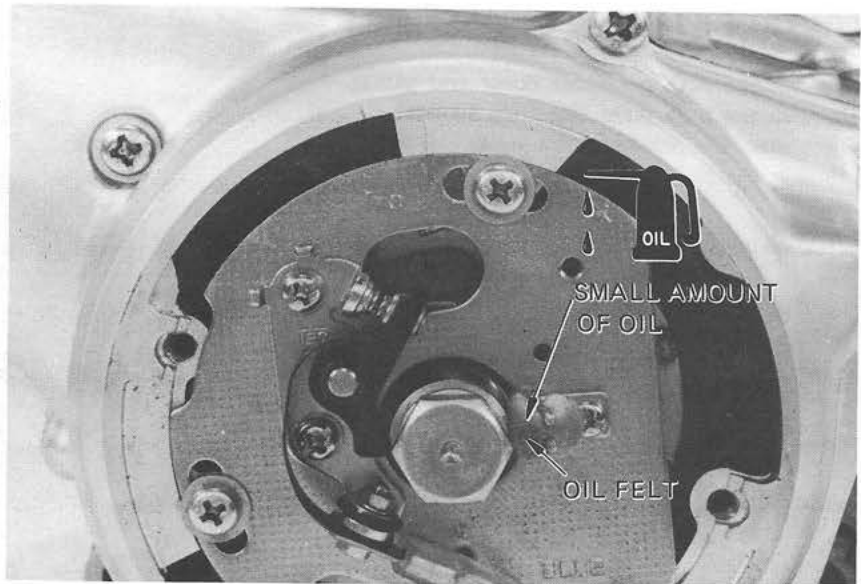
● CONTACT BREAKER POINT ASSEMBLY

The assembly sequence is essentially the reverse of disassembly.

NOTE

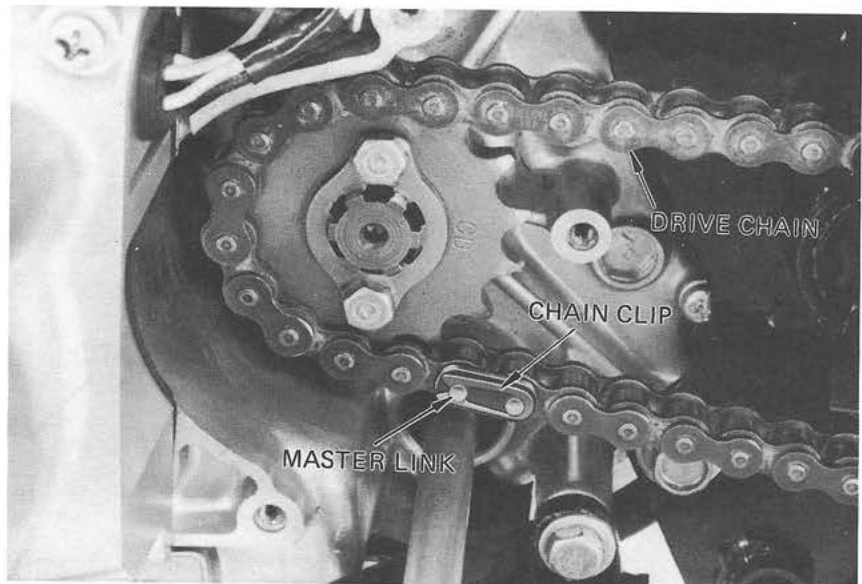
Moisten the felt with a small amount of oil.

After reassembly, perform point gap and ignition timing inspection and adjustment. (See page 3-5.)



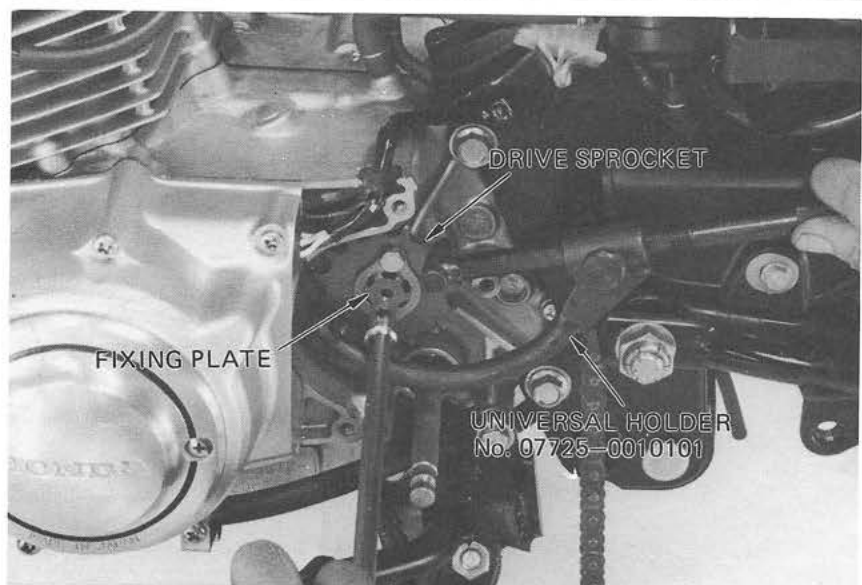
DRIVE SPROCKET REMOVAL

Remove the left crankcase rear cover.
 Remove the chain clip, master link.
 Remove the drive chain.
 Remove the flexing plate and drive sprocket.



● DRIVE SPROCKET INSTALLATION

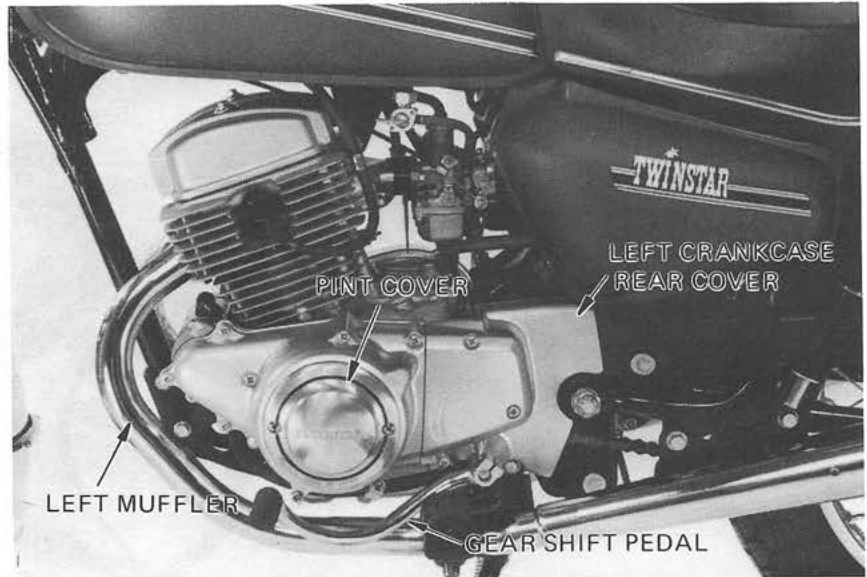
The installation sequence is essentially the reverse of removal.



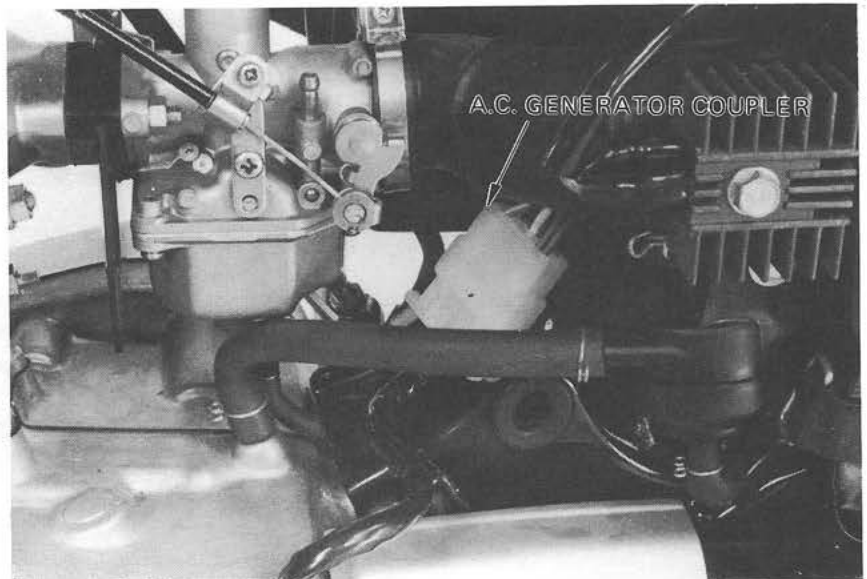


LEFT CRANKCASE COVER REMOVAL

Remove the left muffler.
Remove the gear shift pedal and remove the left crankcase rear cover.
Remove the point cover.

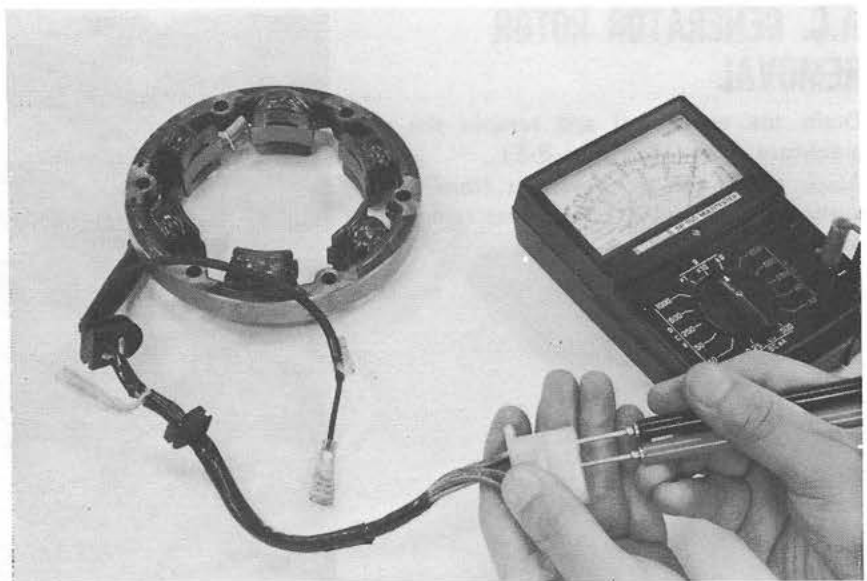


Disconnect the A.C. generator coupler.
Remove the left crankcase cover.
Remove the stator coil.



• STATOR COIL INSPECTION

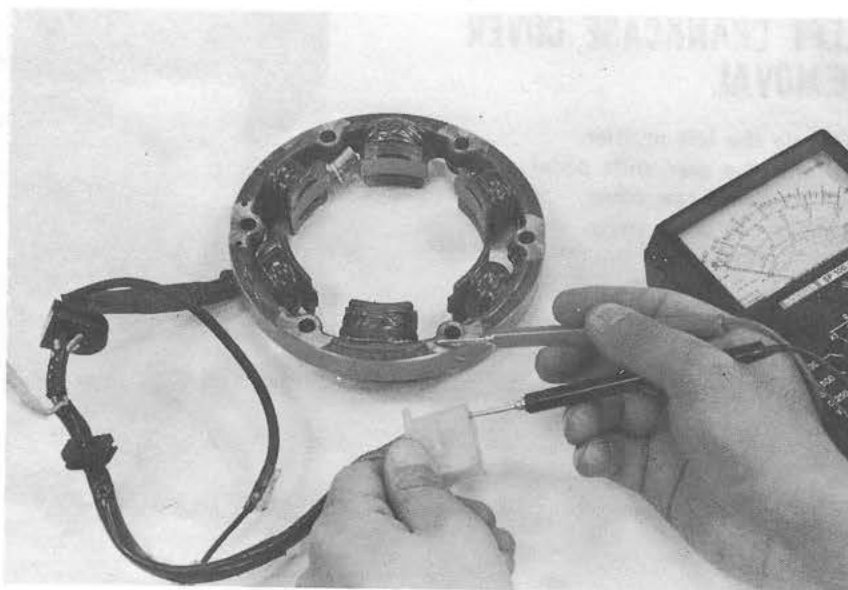
Try the stator coil continuity test.
There should be continuity between the three lead wires: pink-white, white-yellow, yellow-pink of the stator coil.





Try the insulation test.

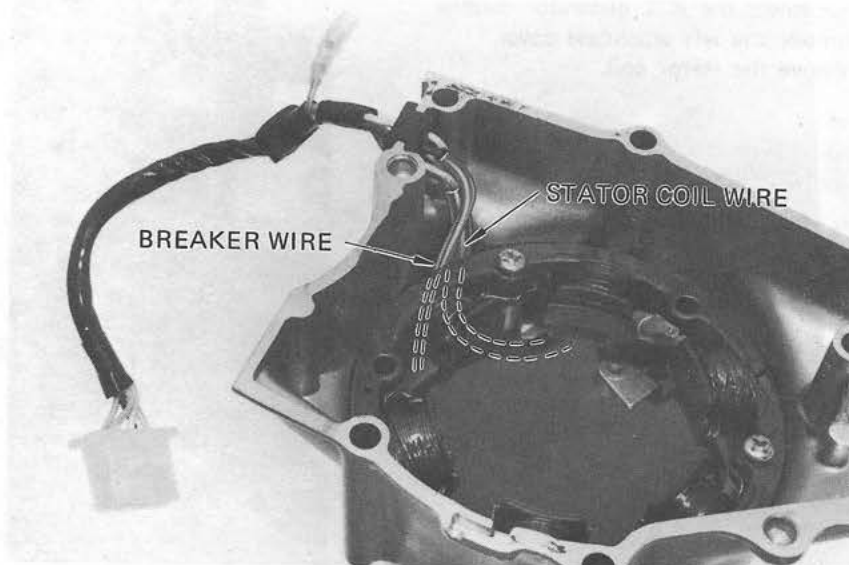
There may be no continuity between white, pink or yellow wire and ground.



• STATOR COIL INSTALLATION

NOTE

Route each wire between cover and stator.

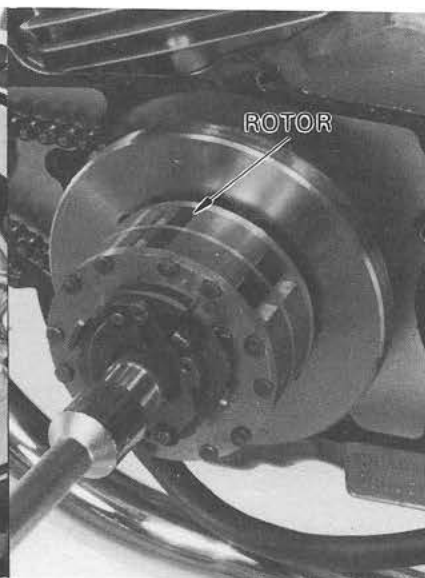


A.C. GENERATOR ROTOR REMOVAL

Drain the engine oil and remove the right crankcase cover. (See page 8-3.)

Block the clutch to prevent it from turning with a clutch outer holder and remove the rotor bolt.

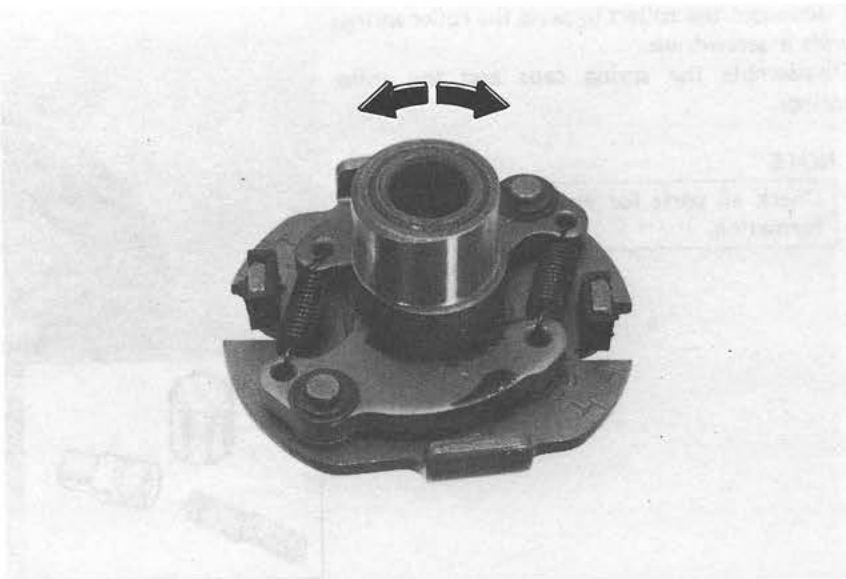
Remove the spark advancer.



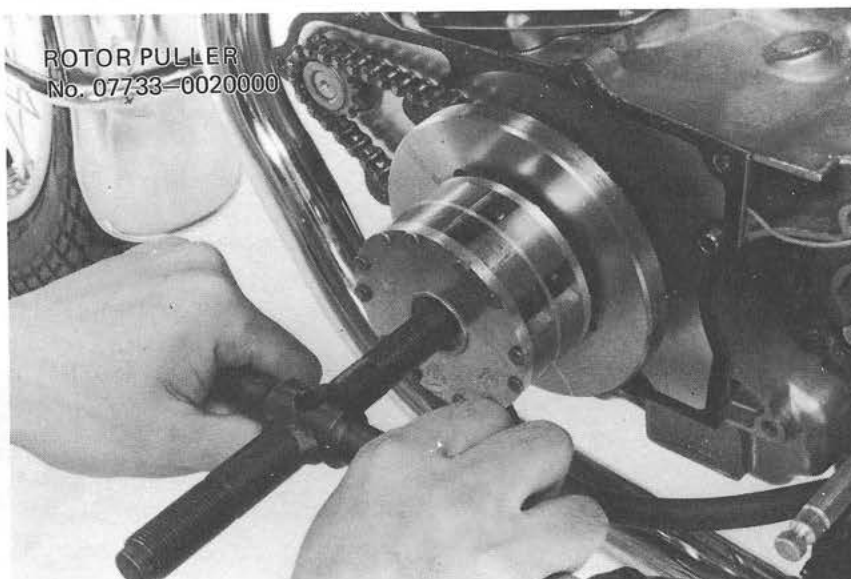


● SPARK ADVANCER INSPECTION

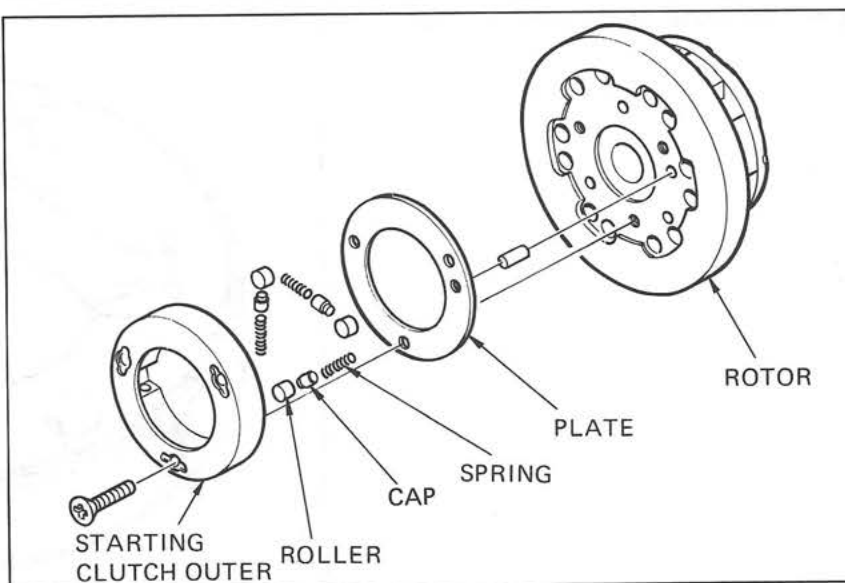
Check the advancer for smooth operation and wear or damage.
The spring pressure should return the cam to the static position.



Remove the rotor with a rotor puller.



● STARTER CLUTCH DISASSEMBLY

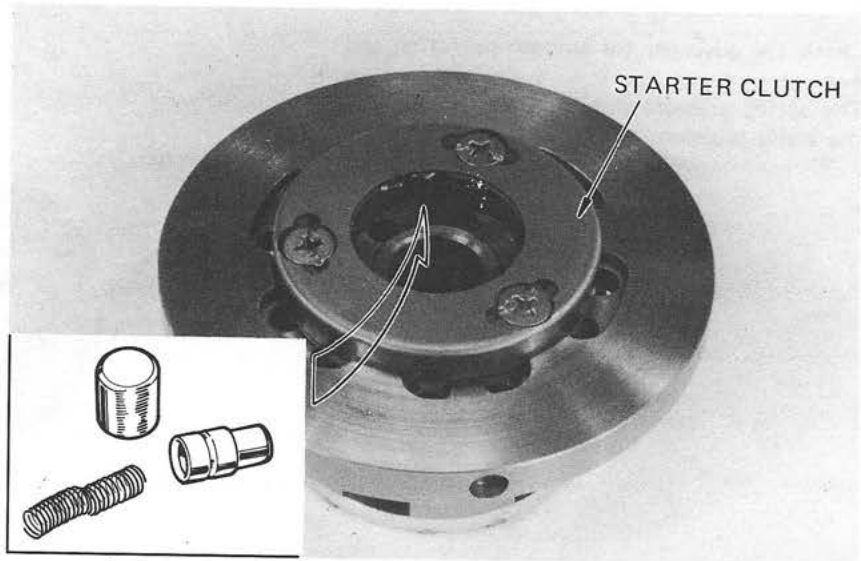




Disconnect the rollers to press the roller springs with a screwdriver.
Disassemble the spring caps and the roller springs.

NOTE

Check all parts for wear, damage or deformation.

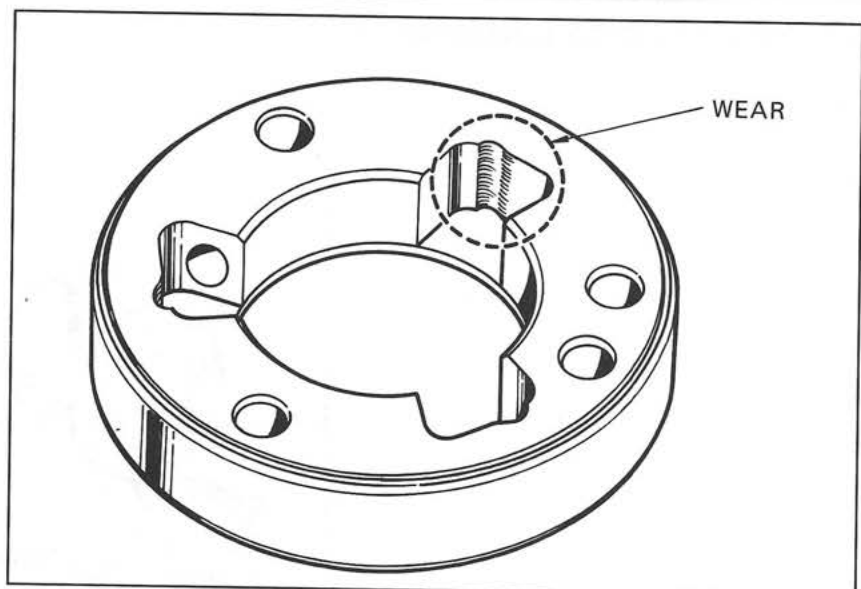


Remove the three clutch outer attaching screws with a shock driver.
Remove the starter clutch outer and side plate.

SHOCK DRIVER



Check the starter clutch outer for wear.





● **STARTER CLUTCH REASSEMBLY**

Install the dowel pin and side plate.

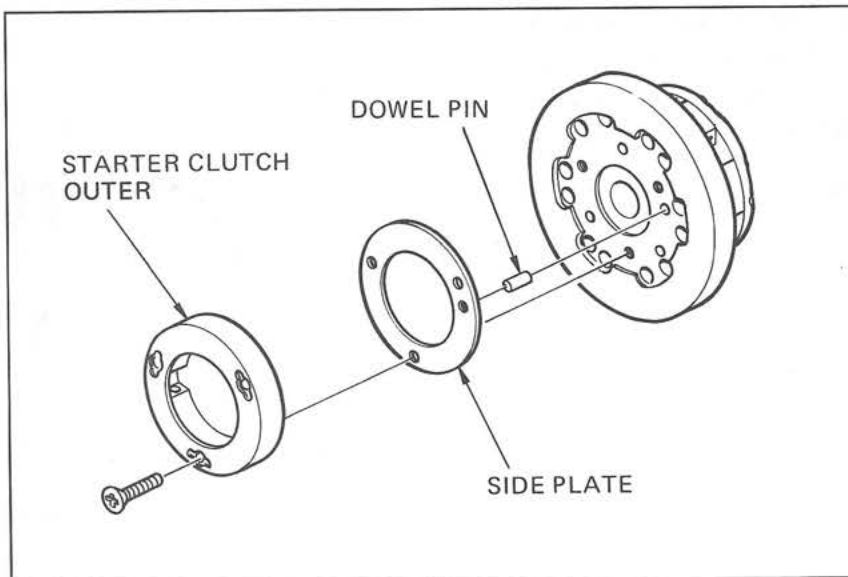
NOTE

Align the dowel pin with the side plate pin holes.

Install the clutch outer and tighten the screws.

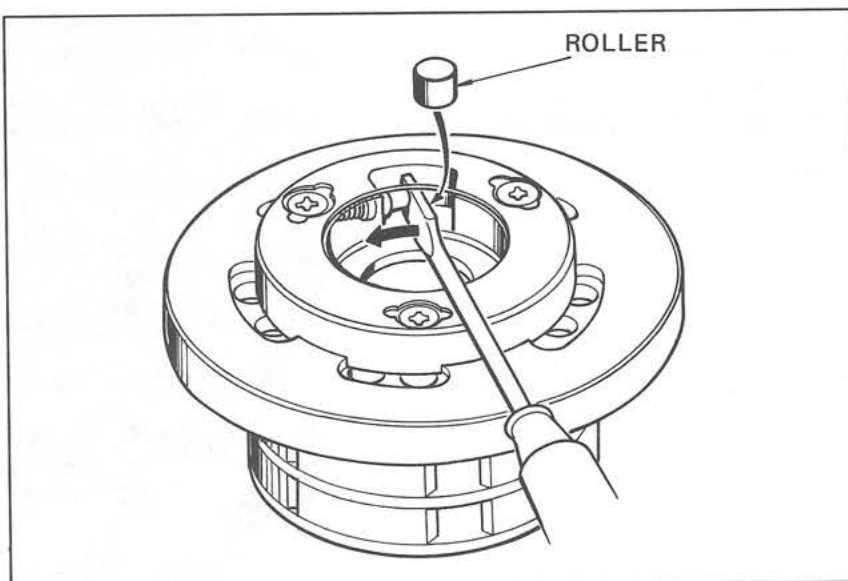
NOTE

Apply locking agent at time of assembly.



Insert the springs, spring caps and rollers into the starter clutch outer.

Check the starter clutch for smooth operation.



STARTING MOTOR REMOVAL

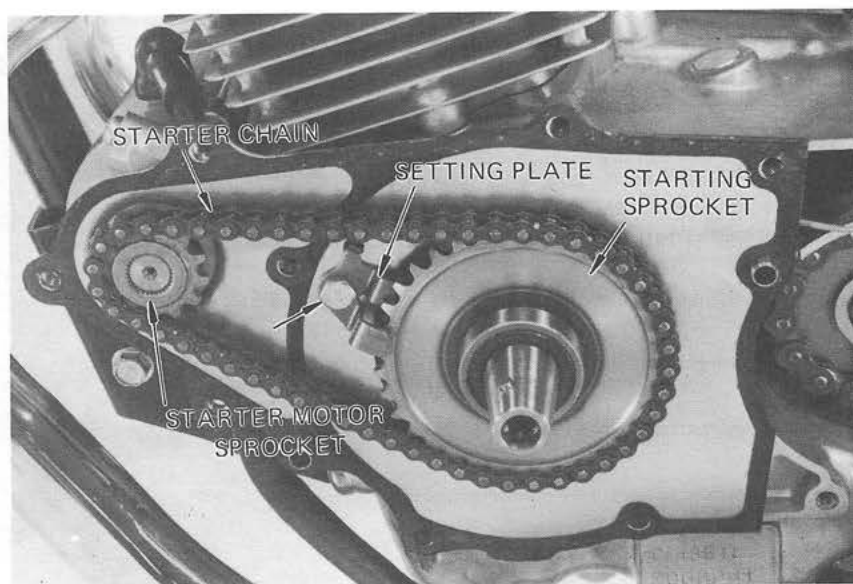
Remove the left crankcase cover. (See page 9-5.)

Remove the rotor. (See page 9-5.)

Remove the starting sprocket setting plate.

Remove the starting sprocket, starter motor sprocket and starter chain.

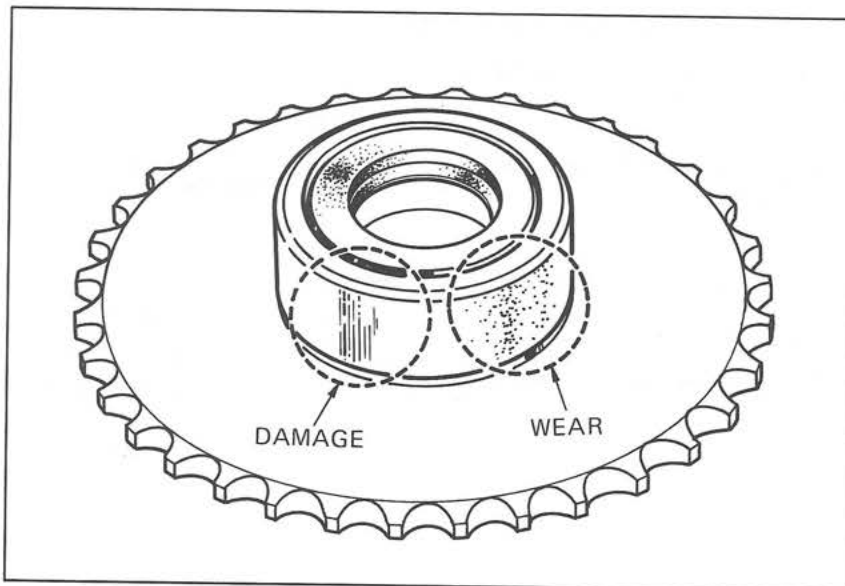
Remove the left side spacer.





- **STARTING SPROCKET INSPECTION**

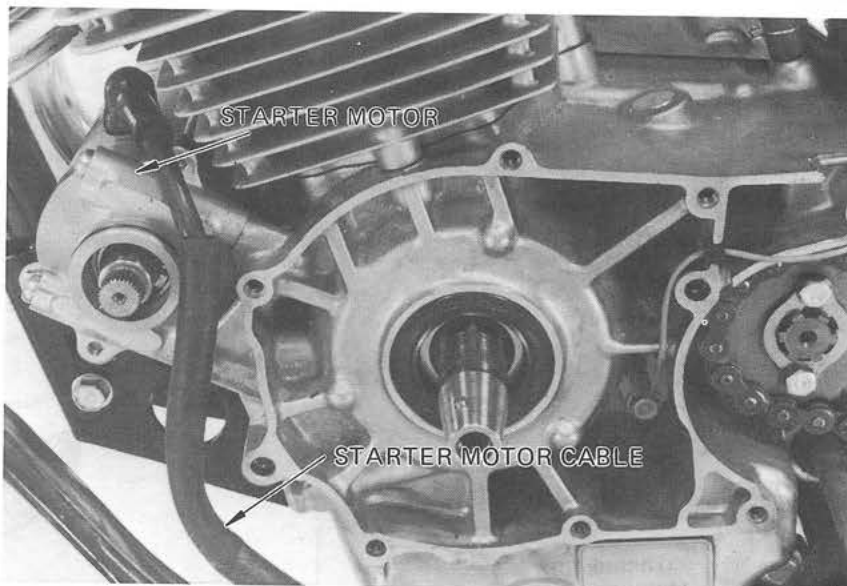
Check the starting sprocket for wear or damage.
Inspect the starting chain for wear or damage.



Disconnect the starter cable.
Remove the starter motor.

- **STARTING MOTOR DISASSEMBLY/ASSEMBLY**

Refer to section 16.

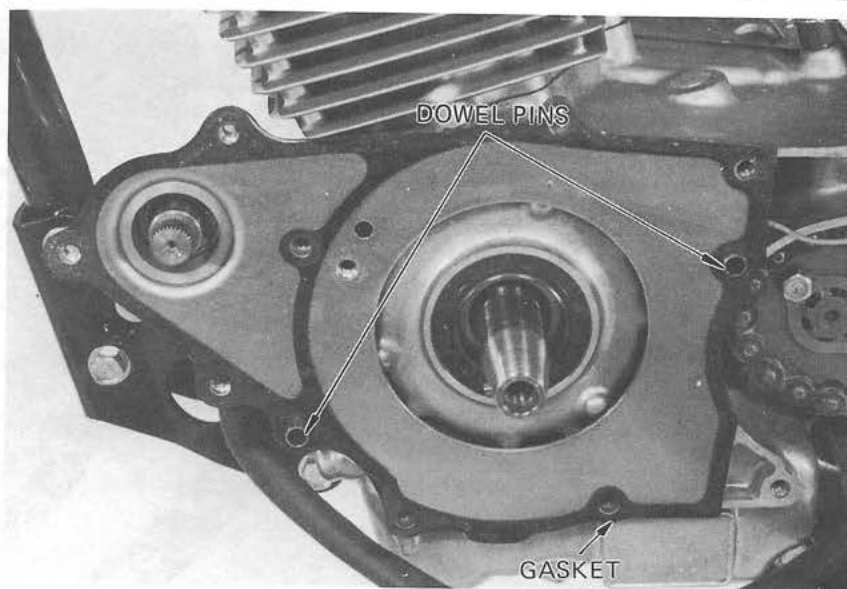


STARTING MOTOR INSTALLATION

Install the left side spacer.

NOTE

- Install the knock pins and gasket at the time of assembly.
- For cable routing, refer to page 1-11.

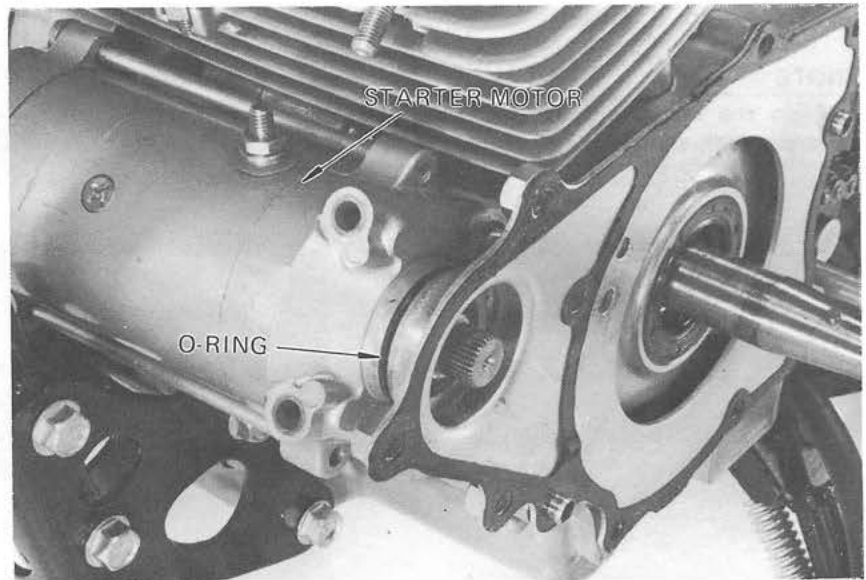




Install the starter motor.

NOTE

Install the O-ring at the time of assembly.

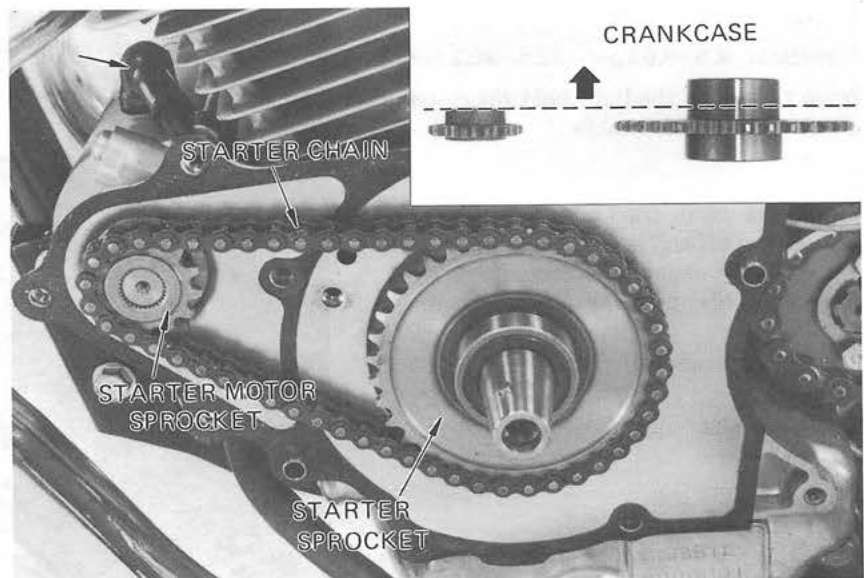


Install the starter chain, starter sprocket and starter motor sprocket at the same time. Install the sprocket setting plate.

NOTE

- Note the direction of sprockets.
- Turn the crankshaft counterclockwise and check sprocket for smooth operation.

Route and connect the starter cable.

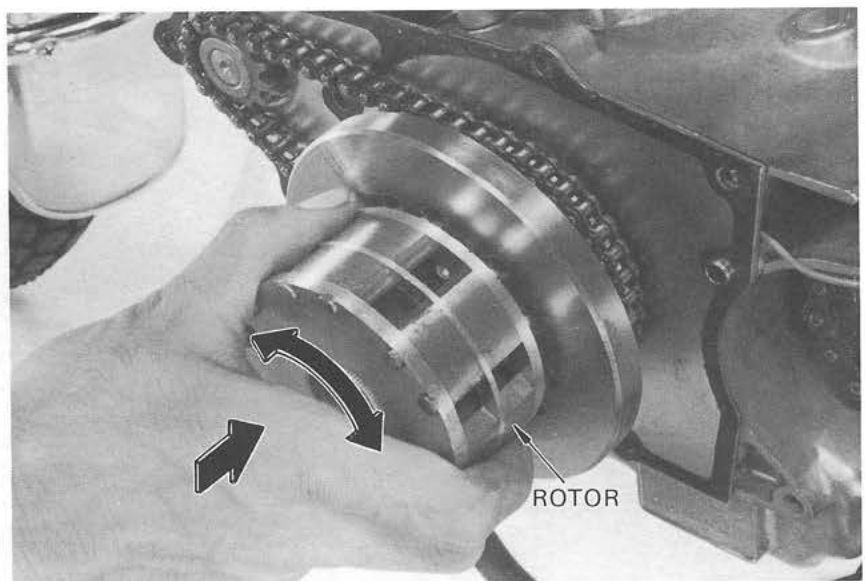


A.C. GENERATOR INSTALLATION

Install the rotor.

NOTE

- Align the knock pin with the groove of rotor.
- Do not fall the starting clutch rollers.

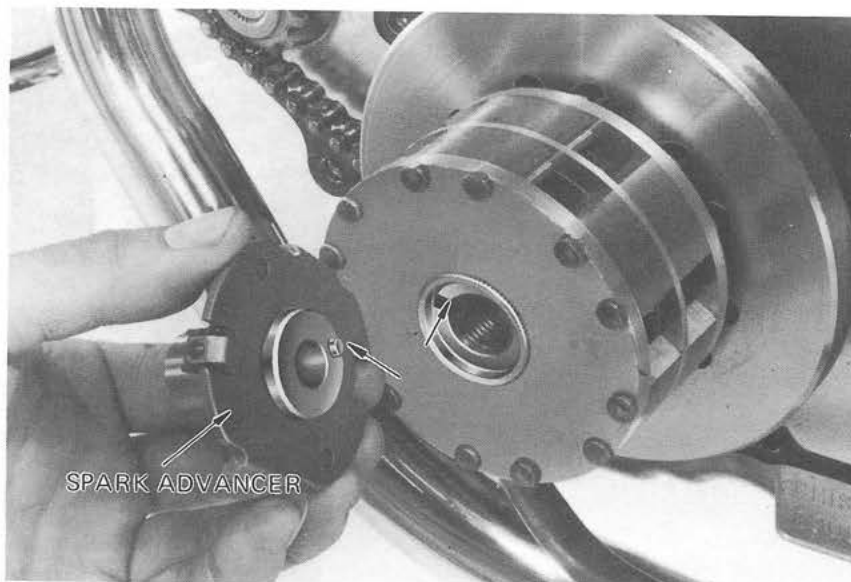




Install the spark advancer.

NOTE

Align the knock pin on the spark advancer with the groove of rotor.



Tighten the rotor bolt.

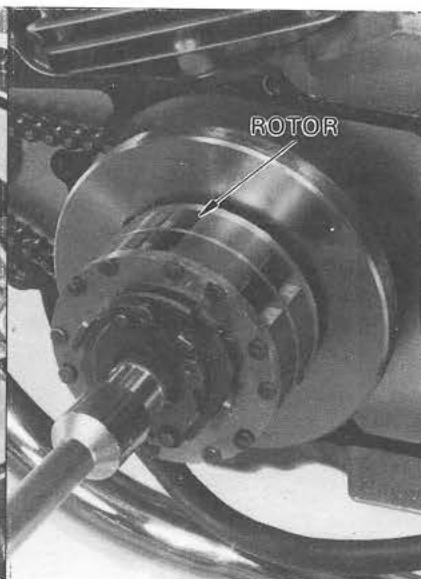
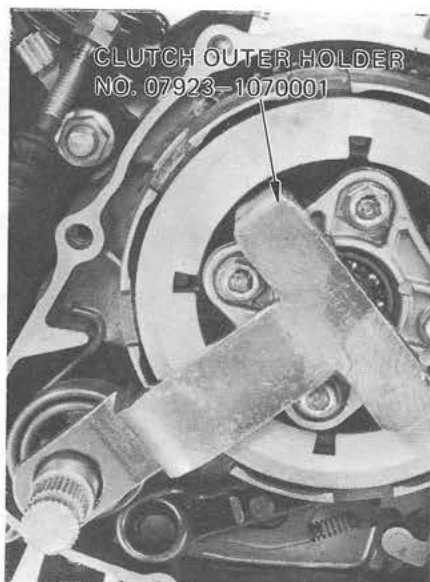
TORQUE: 4.5–5.0 kg-m (32.5–36.2 ft-lb.)

When tightening the bolt, hold the clutch lifter plate with a clutch holder.

Install the right crankcase cover, kick pedal and right muffler.

Fill with the engine oil (See page 2-2).

After assembly, perform clutch adjustment.



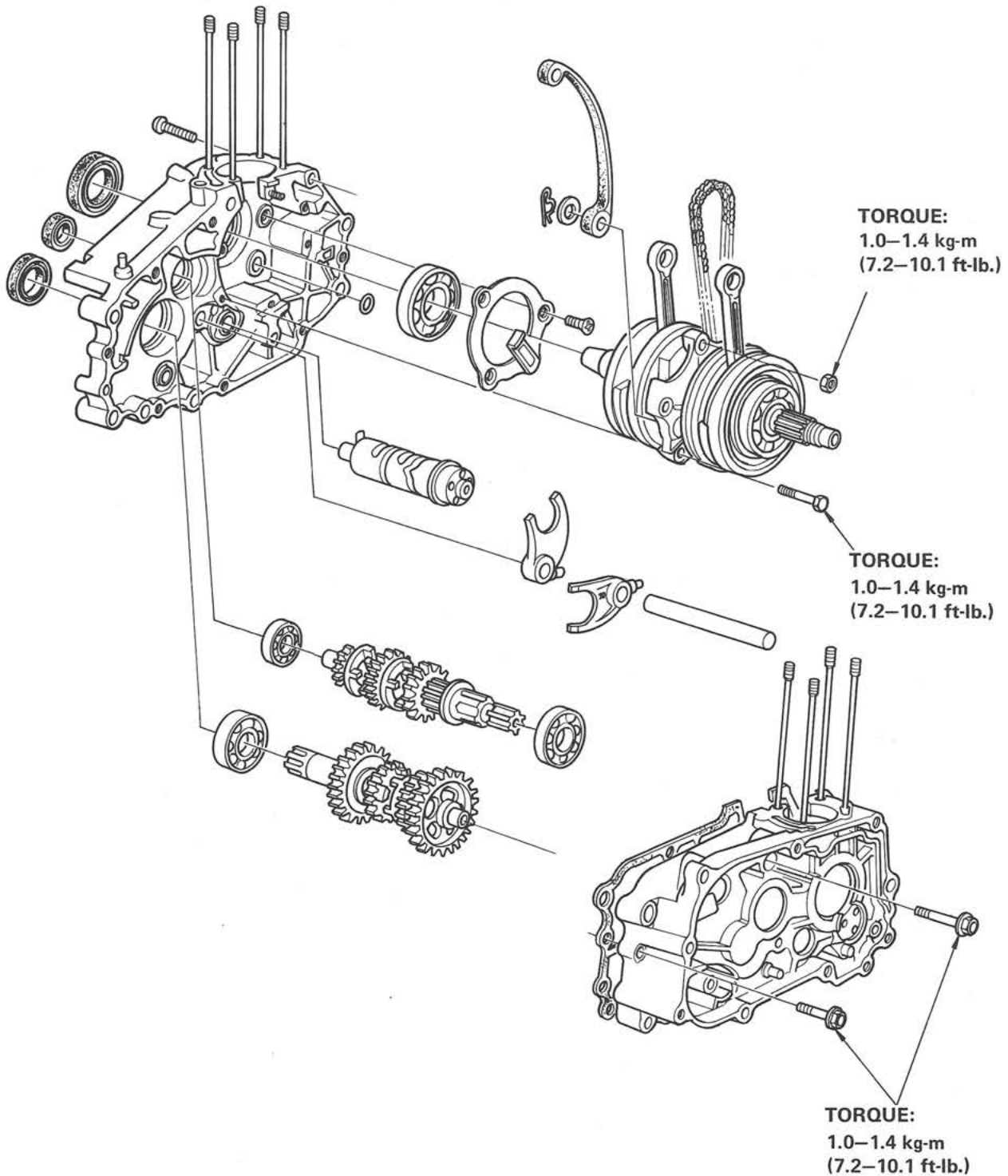
LEFT CRANKCASE COVER INSTALLATION

Install the left crankcase cover, left crankcase rear cover, gear shift pedal and left muffler.





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CRANKSHAFT INSTALLATION	10-10
TRANSMISSION ASSEMBLY	10-11
CRANKCASE ASSEMBLY	10-13

SERVICE INFORMATION

• WORKING PRACTICE

This section includes transmission and crankshaft repairs which require crankcase separation. Refer to the following topics for removal of the engine and other parts which must be removed before separating the crankcase:

- ENGINE REMOVAL Section 5
- CYLINDER HEAD REMOVAL Section 6
- CYLINDER Section 7
- CLUTCH OIL PUMP/GEARSHIFT LINKAGE Section 8
- A.C. GENERATOR/STARTER MOTOR Section 9

• TOOLS

Special Tools

- | | |
|----------------|------------------------|
| Bearing driver | Tool No. 07946-3710000 |
| Driver handle | Tool No. 07949-6110000 |

Common Tools

- | | |
|------------------------|------------------------|
| Bearing driver (32x35) | Tool No. 07746-0010100 |
| Bearing driver (42x47) | Tool No. 07746-0010300 |
| Bearing driver (52x55) | Tool No. 07746-0010400 |
| Driver pilot (15) | Tool No. 07746-0040300 |
| Driver pilot (20) | Tool No. 07746-0040500 |
| Driver pilot (35) | Tool No. 07746-0040800 |
| Driver handle A | Tool No. 07749-0010000 |

• TORQUES

- | | |
|---------------------------|--------------------------------|
| Crankshaft bolts and nut: | 1.0-1.4 kg-m (7.2-10.1 ft-lb.) |
| Crankcase bolts: | 1.0-1.4 kg-m (7.2-10.1 ft-lb.) |



• SERVICE DATA

ITEMS		STANDARD	SERVICE LIMIT
Shift fork	I.D.	12.000–12.018 mm (0.4724–0.4731 in.)	12.05 mm (0.4744 in.)
	End thickness	5.00–5.07 mm (0.1969–0.1996 in.)	4.70 mm (0.1850 in.)
Shift fork guide shaft	O.D.	11.976–11.994 mm (0.4515–0.4722 in.)	11.96 mm (0.4709 in.)
Crankshaft	Runout	—————	0.1 mm (0.0039 in.)
Connecting rod big end side clearance		0.1–0.4 mm (0.0039–0.0158 in.)	0.6 mm (0.0236 in.)
Connecting rod big end radial clearance		0.004–0.012 mm (0.0002–0.0005 in.)	0.05 mm (0.0020 in.)

TROUBLESHOOTING

Hard Shifting

1. Shift forks bent
2. Shift fork guide shaft bent

Jumps Out Of Gear

1. Gear dogs worn
2. Shift shaft bent
3. Shift forks bent or damaged

Crankshaft Noise

1. Connecting rod big end bearing worn
2. Connecting rod bent
3. Crankshaft bearing worn

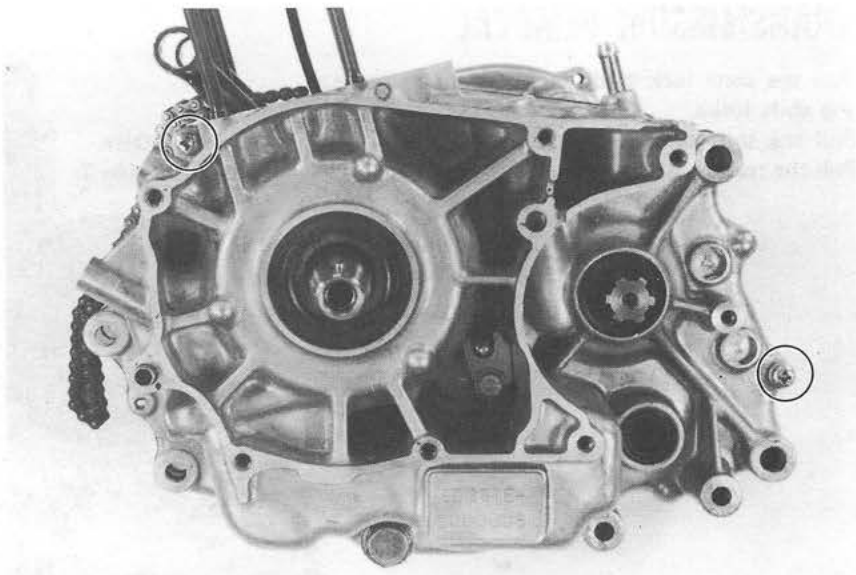
Transmission Noise

1. Transmission gear worn
2. Splined shaft worn



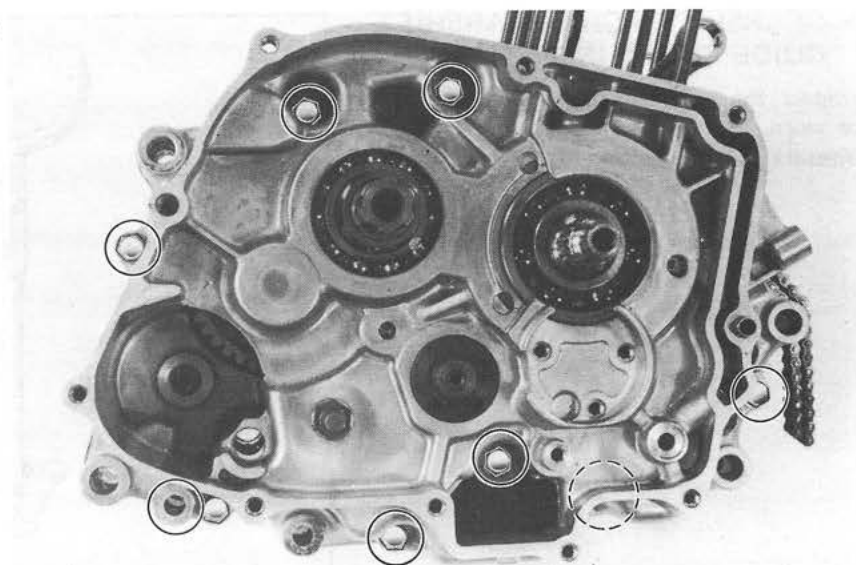
CRANKCASE DISASSEMBLY

Place the engine with the left crankcase upwards and remove the 6 mm screws.



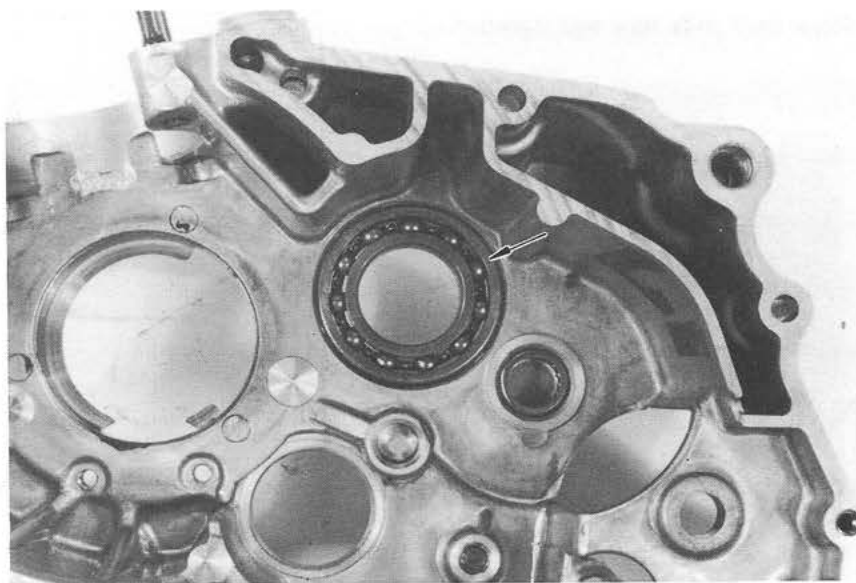
Place the engine with the right crankcase upwards and remove the setting bolts.

Remove the right crankcase.



● BALL BEARING INSPECTION

Replace the main shaft bearing, if it is noisy.



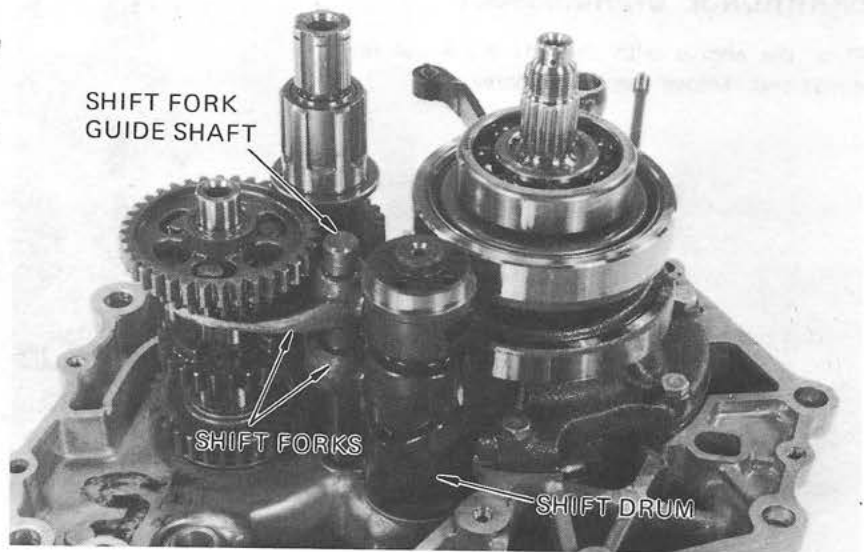


TRANSMISSION REMOVAL

Pull the shift fork guide shaft out and remove the shift forks.

Pull the shift drum out.

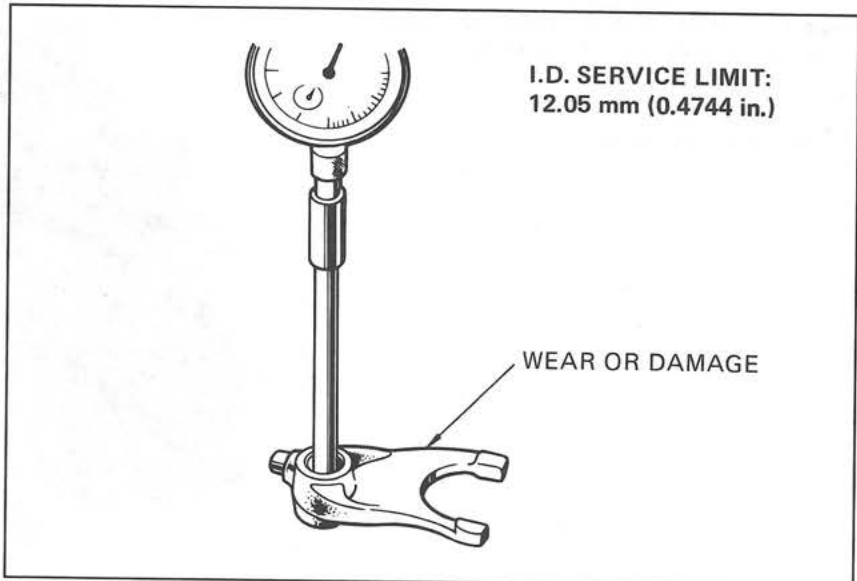
Pull the transmission gears out with both hands.



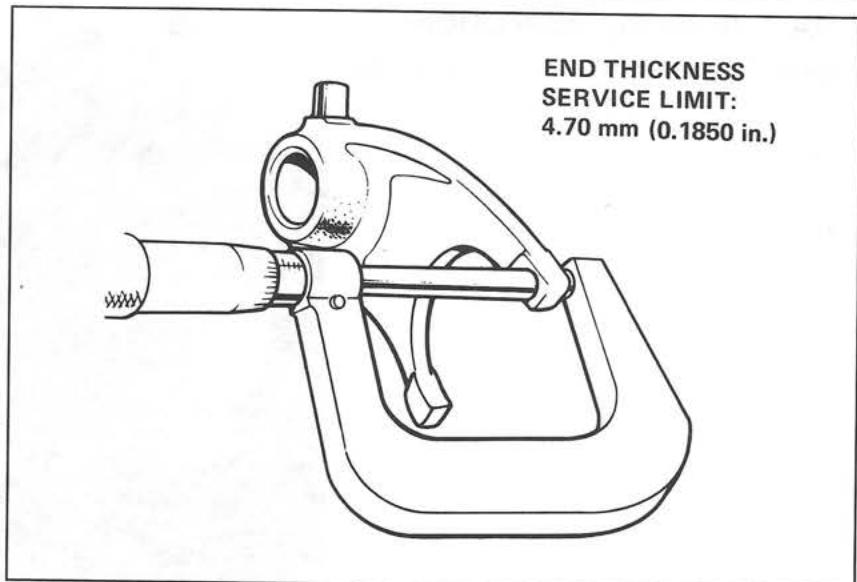
• GEARSHIFT FORK/GEARSHIFT GUIDE SHAFT INSPECTION

Inspect the shift forks and replace if broken or worn.

Measure each shift fork I.D.

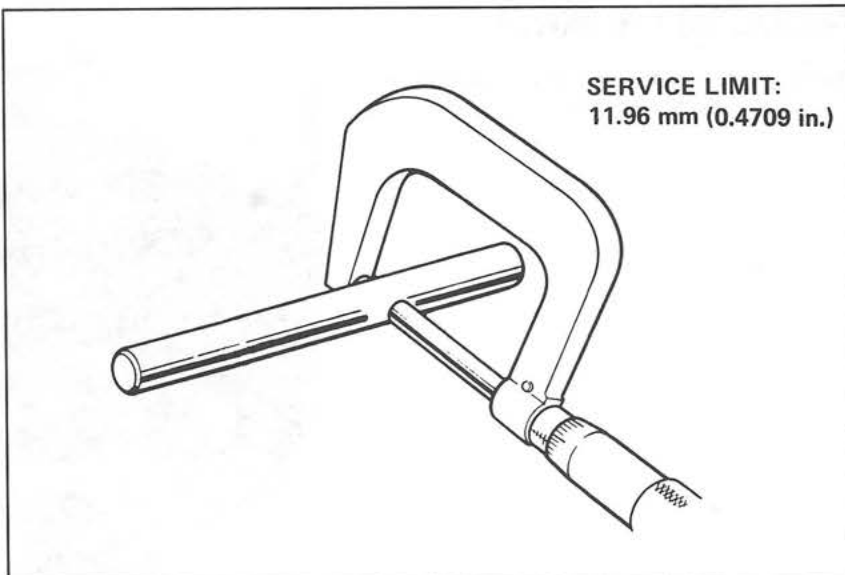


Check each shift fork end thickness.

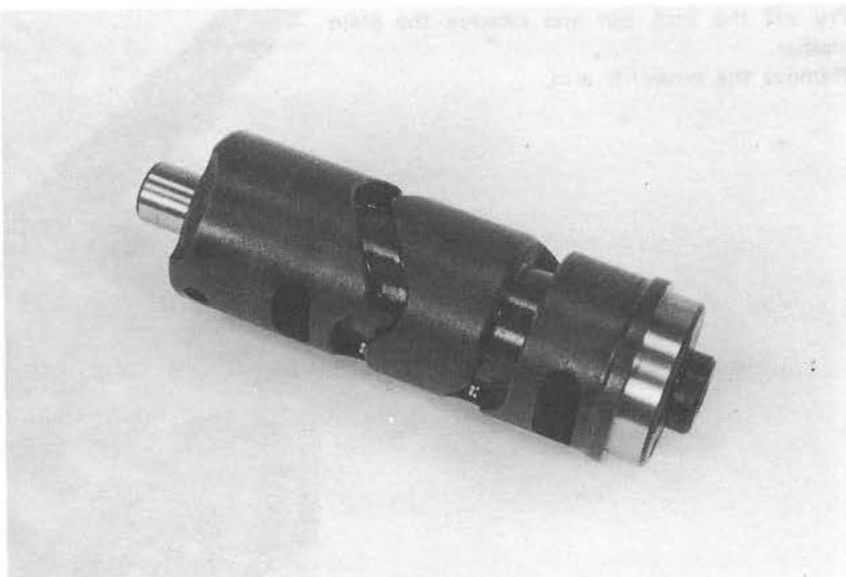




Measure the shift fork guide shaft O.D. in two directions at right angle to each other.

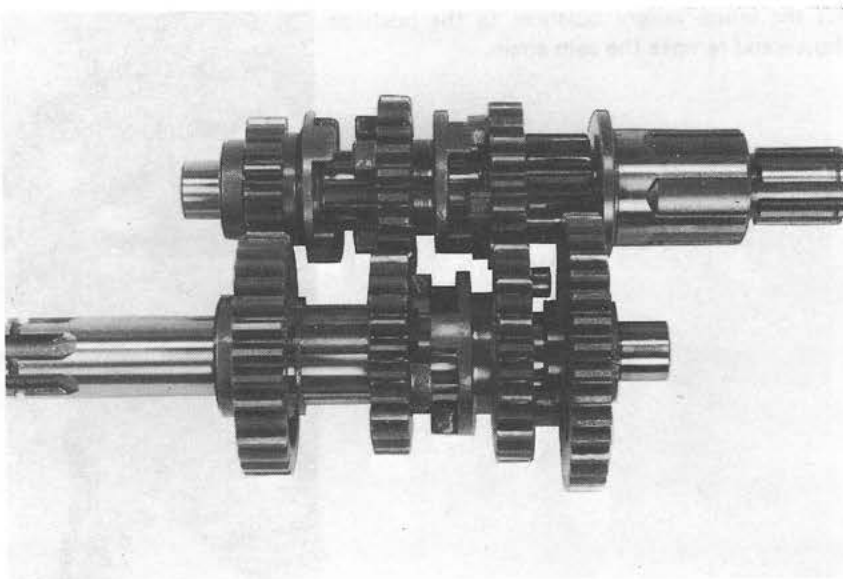


Check the gearshift drum for wear or damage.



TRANSMISSION DISASSEMBLY

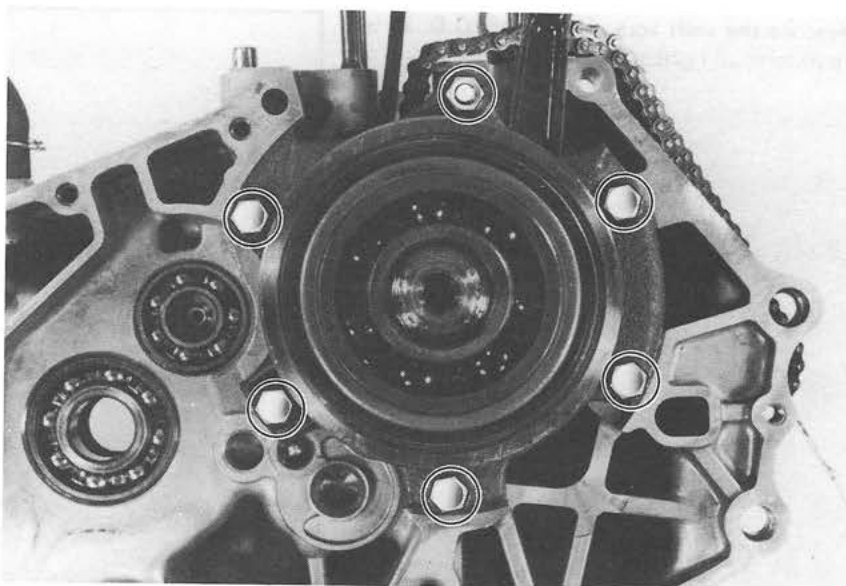
Disassemble the transmission gears and inspect each gear for wear or damage.
Replace if broken or worn.



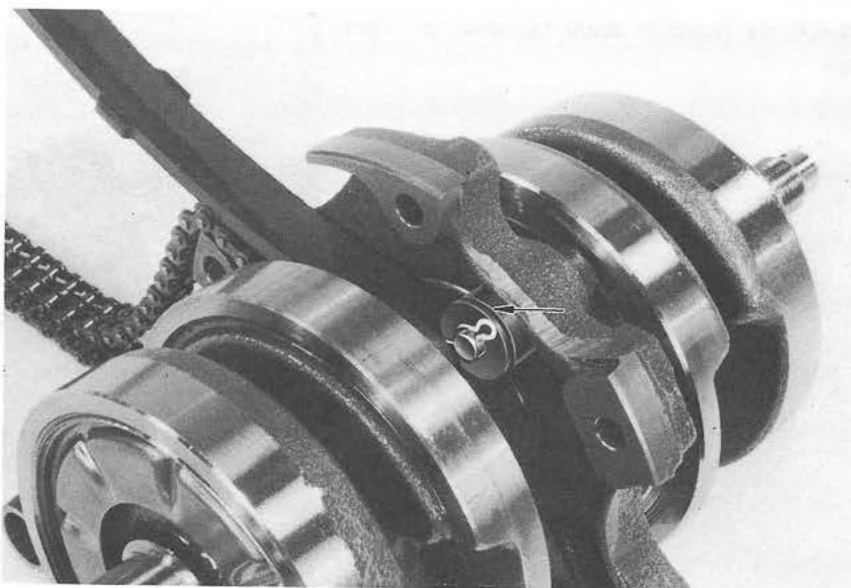


CRANKSHAFT REMOVAL

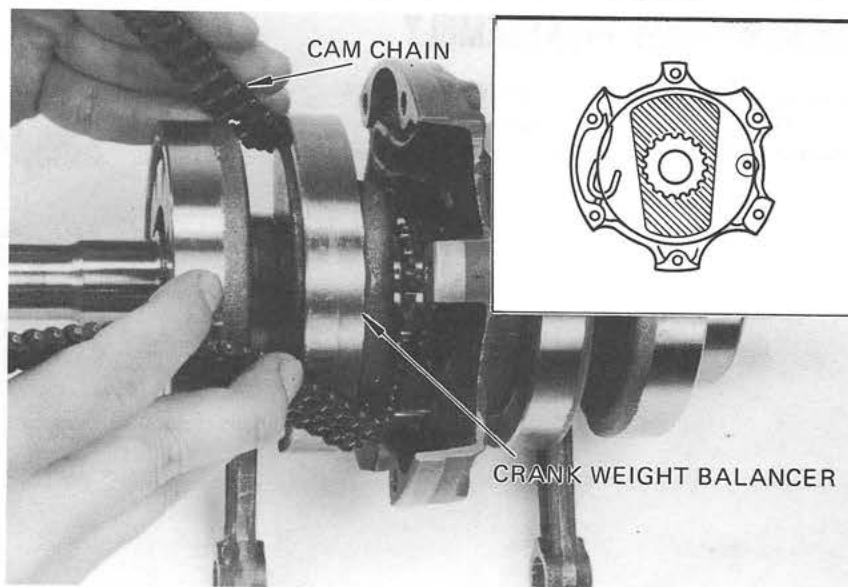
Remove the crankshaft after unscrewing the five setting bolts and nut.



Pry off the lock pin and remove the plain washer.
Remove the tensioner arm.



Set the crank weight balancer to the position shown and remove the cam chain.

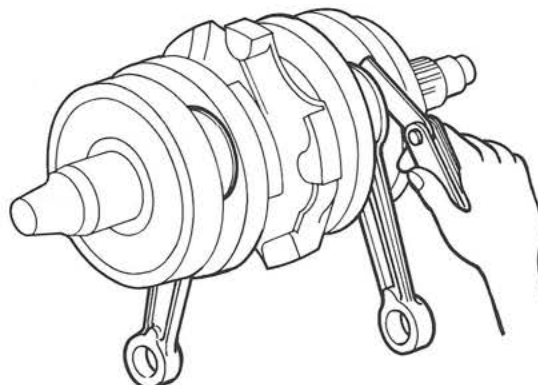




● **CRANKSHAFT INSPECTION**

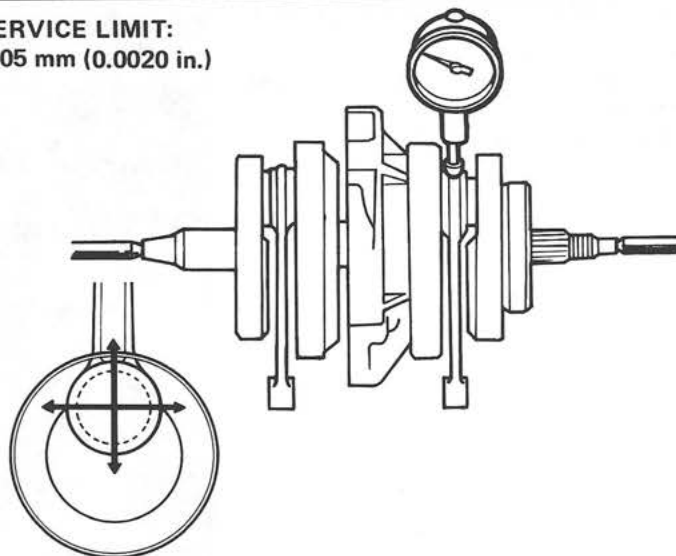
Measure the connecting rod big end side clearance.

SERVICE LIMIT:
0.6 mm (0.0236 in.)



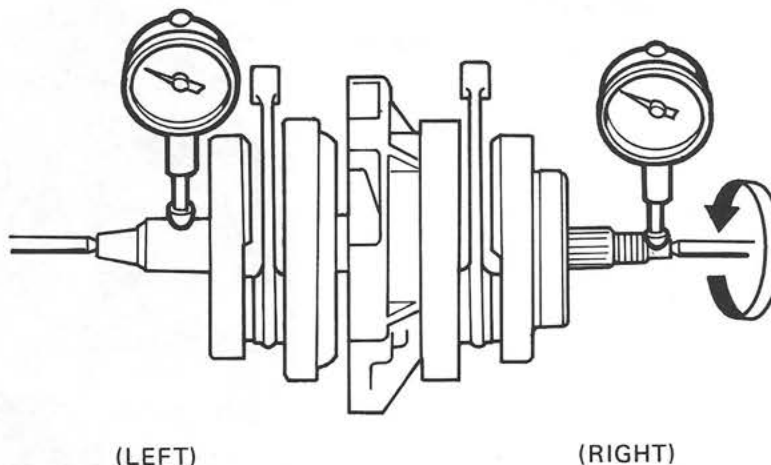
Measure the radial clearance at two different points across from each other as shown.

SERVICE LIMIT:
0.05 mm (0.0020 in.)



Measure runouts at points shown.
Actual bend is 1/2 of Total Indicator Reading.

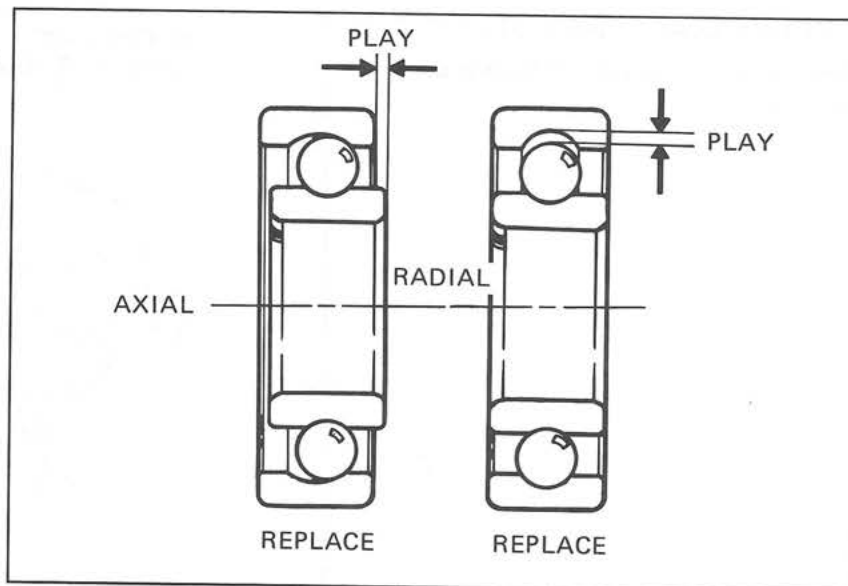
SERVICE LIMIT:
0.1 mm (0.0039 in.)





● CRANKSHAFT BEARING PLAY

Replace the bearing if it has excessive play or is noisy.

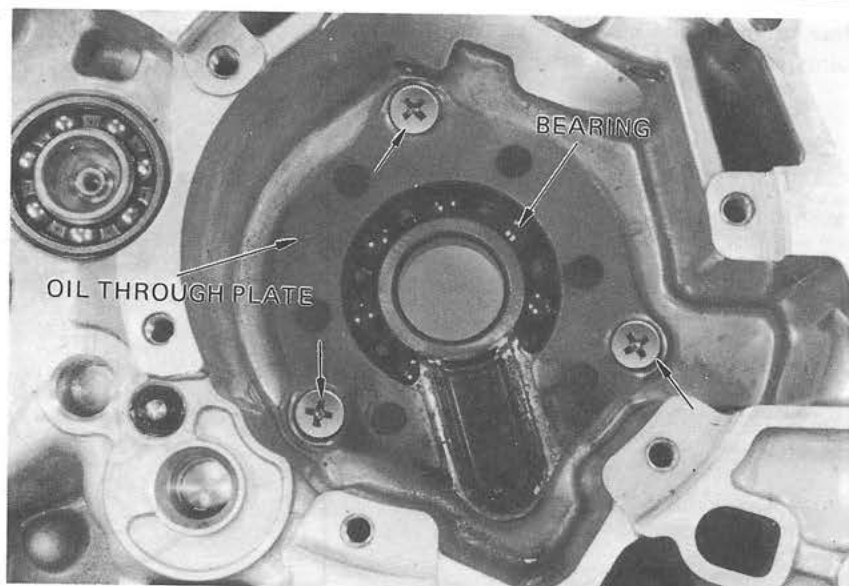


● LEFT CRANKCASE DISASSEMBLY

Remove the oil seal.

Remove the oil through plate by removing three screws.

Remove the crankshaft bearing.



BALL BEARING INSTALLATION

● LEFT CRANKCASE

Install the ball bearing with a bearing driver.

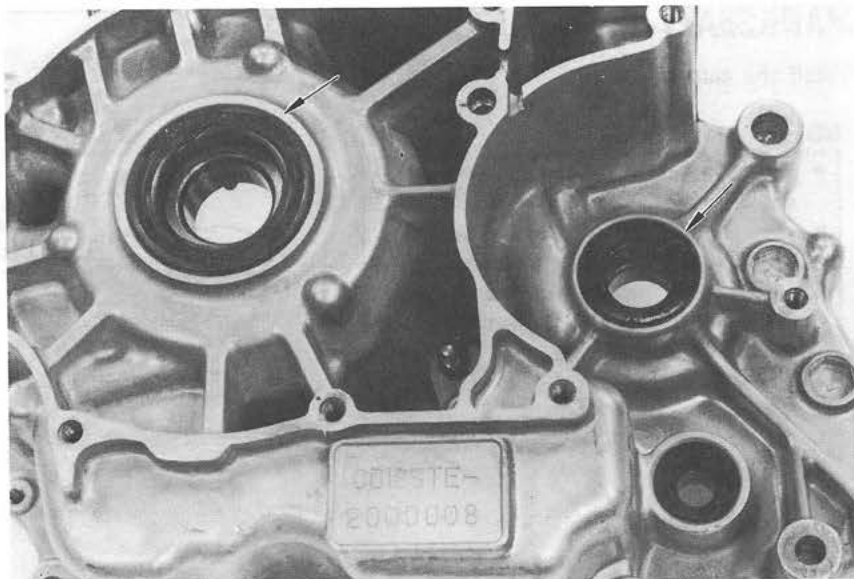




Install the oil seal.

CAUTION

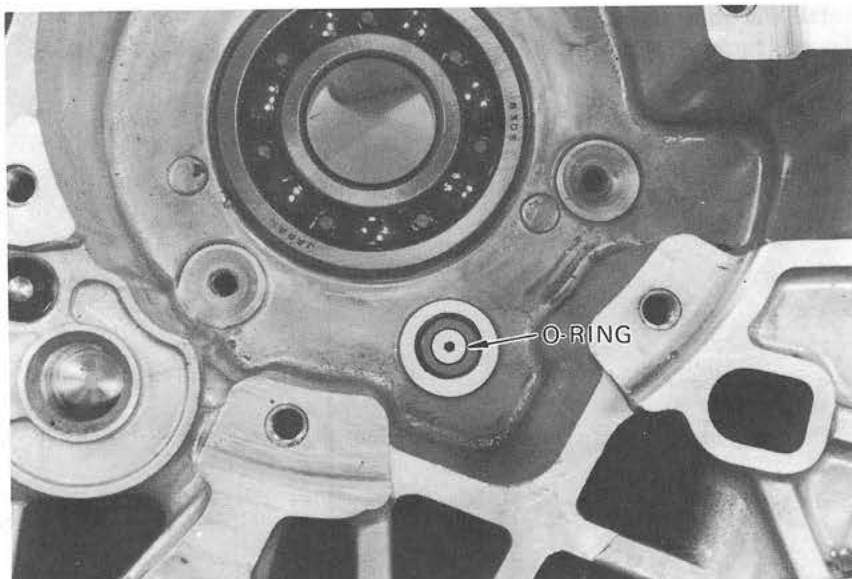
Do not drive the countershaft oil seal below the end of the crankcase as this will block up the oil passage in the shaft.



Install the O-ring and the oil through plate.
Tighten the screws.

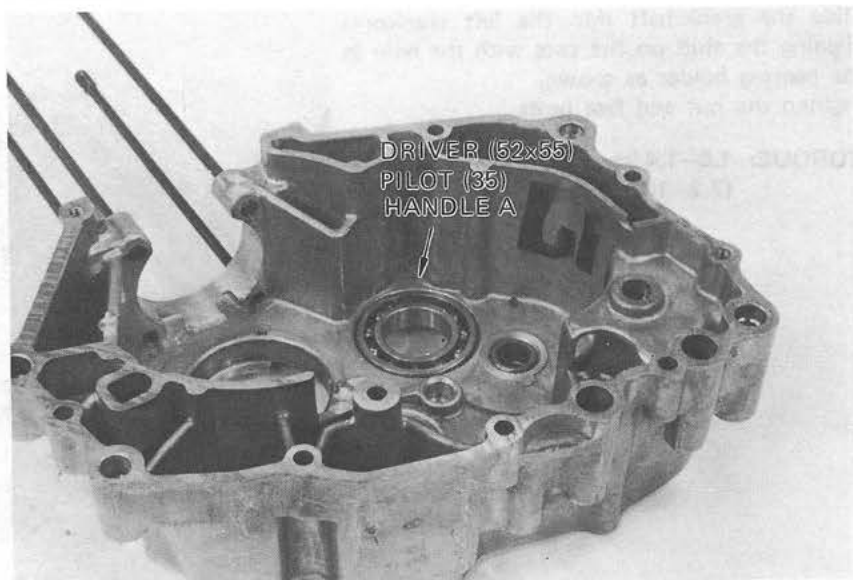
NOTE

Apply locking agent to the screws.



● **RIGHT CRANKCASE**

Install the bearing with a bearing driver.



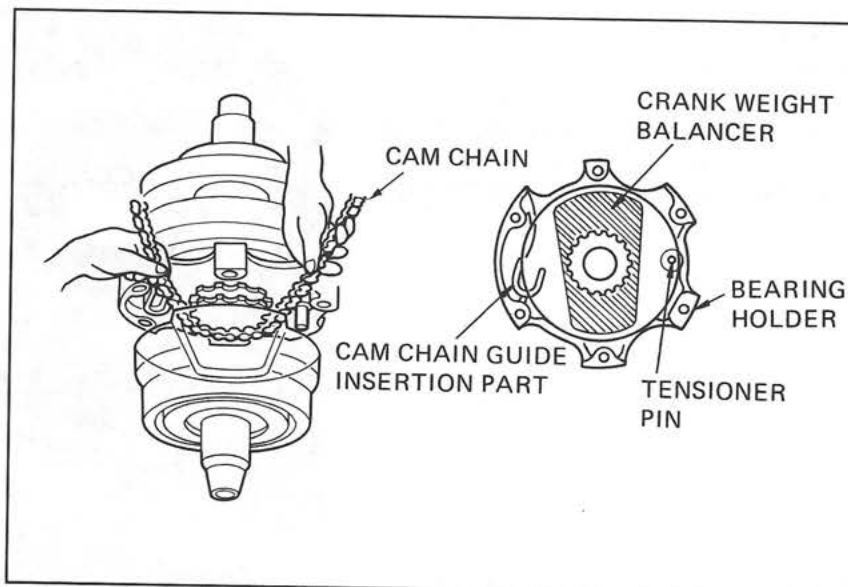


CRANKSHAFT INSTALLATION

Install the cam chain.

NOTE

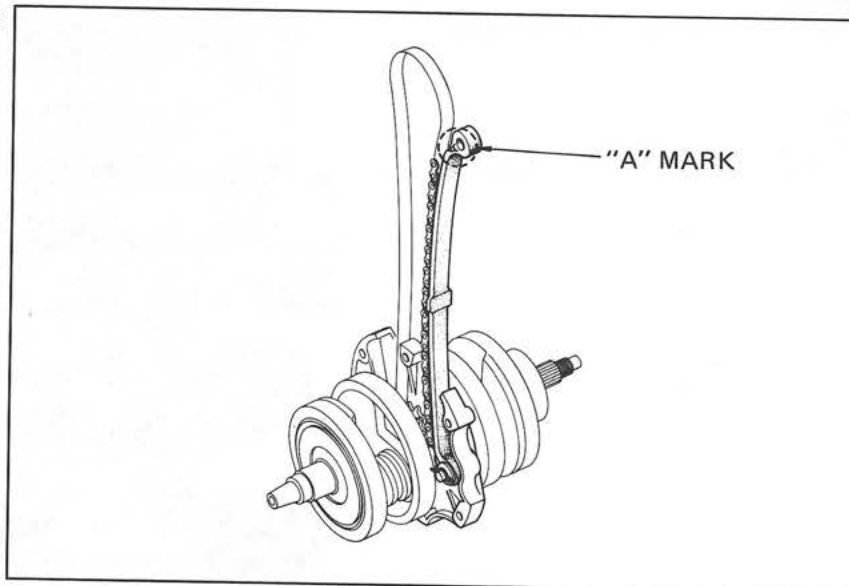
- Set the crank weight balancer as shown.
- Pass the cam chain between tensioner pin and crank weight balancer.
- Install while holding the chain between cam chain guide insertion part and crank weight balancer.



Install the cam chain tensioner arm with the slippery surface facing the chain.

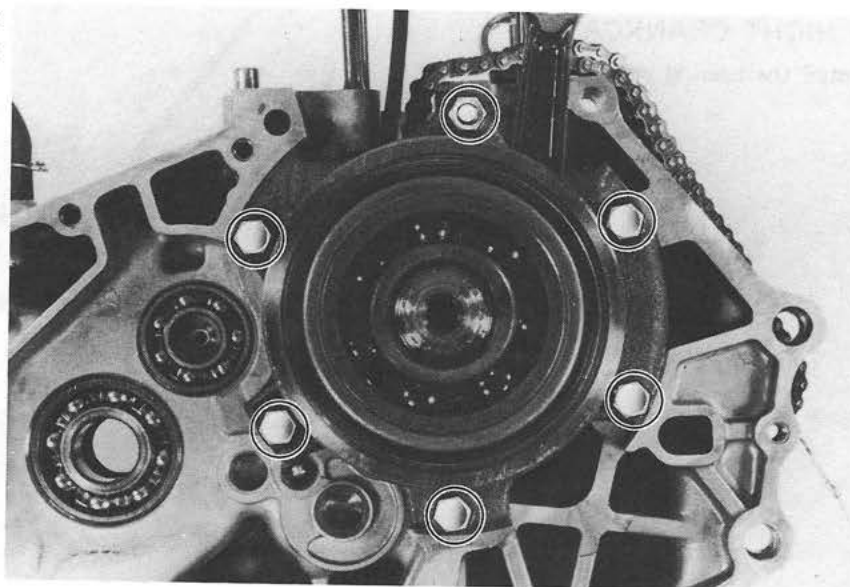
NOTE

- Install with the "A" mark facing the cylinder head.



Slide the crankshaft into the left crankcase aligning the stud on the case with the hole in the bearing holder as shown. Tighten the nut and five bolts.

TORQUE: 1.0–1.4 kg-m
(7.2–10.1 ft-lb.)

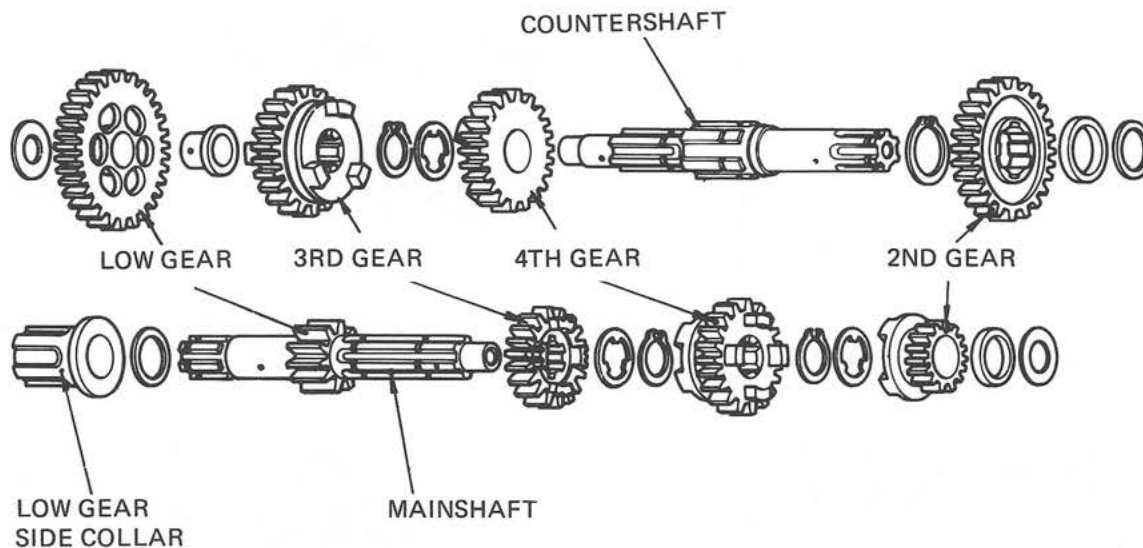




TRANSMISSION ASSEMBLY

NOTE

After assembly, apply oil to each gear and shaft.



Assemble the mainshaft and the countershaft shown above.

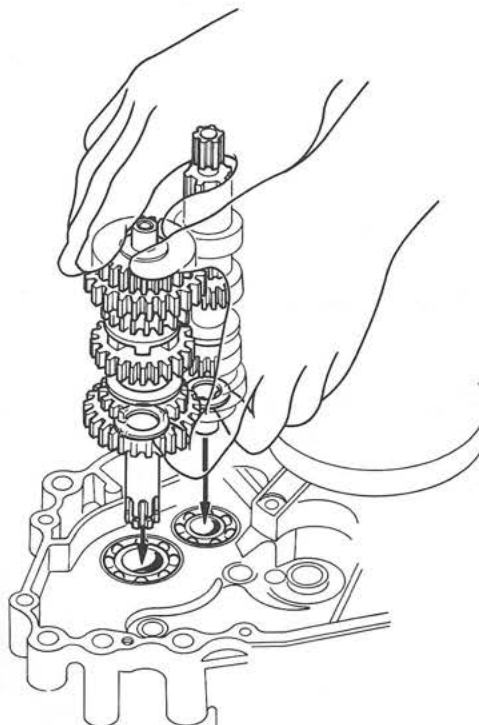
NOTE

- After assembly, check each gear for smooth operation.
- Install the circlips into the groove completely.

Slide the mainshaft and countershaft into the left crankcase.

NOTE

- Install the mainshaft and countershaft at the same time.
- Hold the thrust washers with fingers during operation.

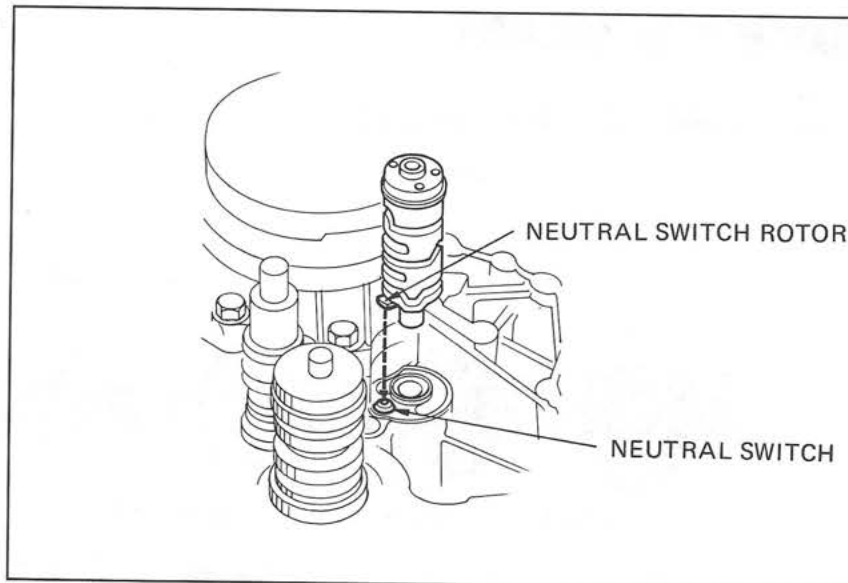




Install the shift drum into the left crankcase.

NOTE

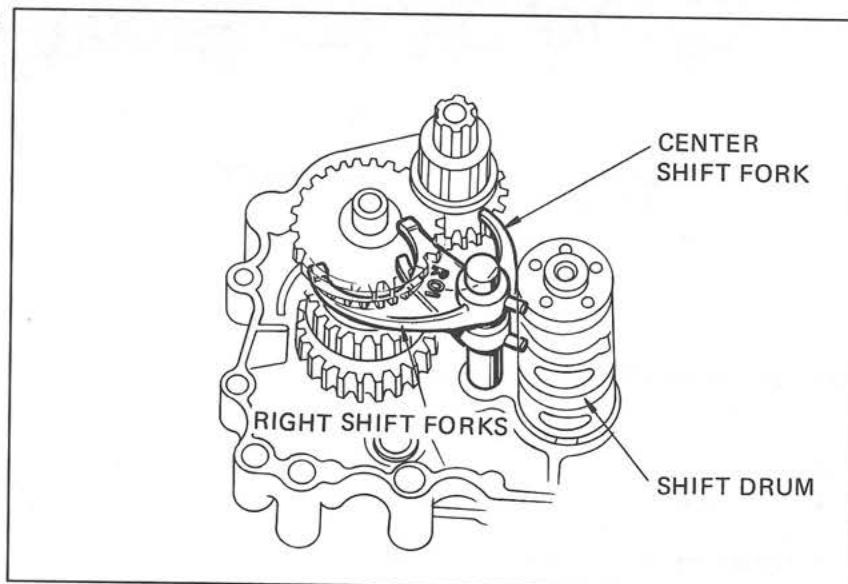
Align the neutral switch rotor with the neutral switch on the left crankcase.



Insert the shift forks in the grooves of the shift drum.

NOTE

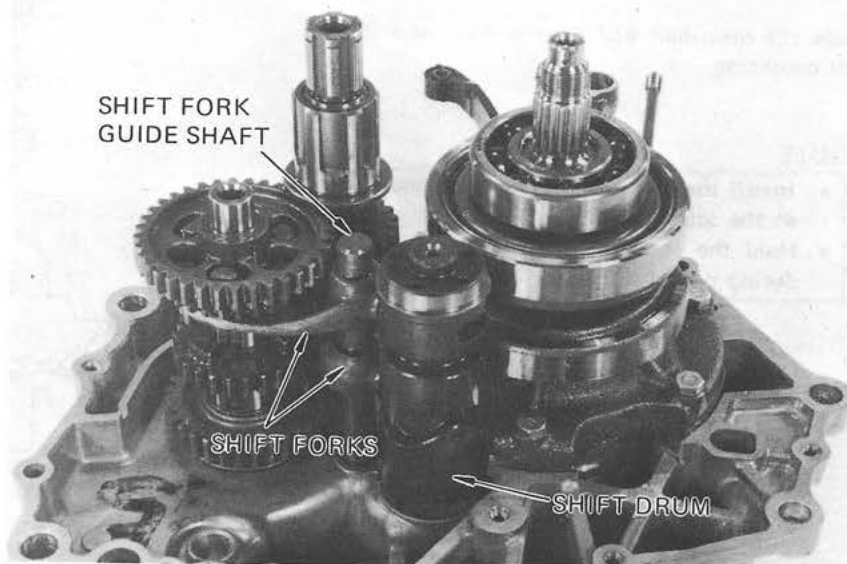
Install with the right fork facing the mark up and center fork facing the mark down.



Insert the shift guide shaft into the left crankcase through the holes in the shift forks.

NOTE

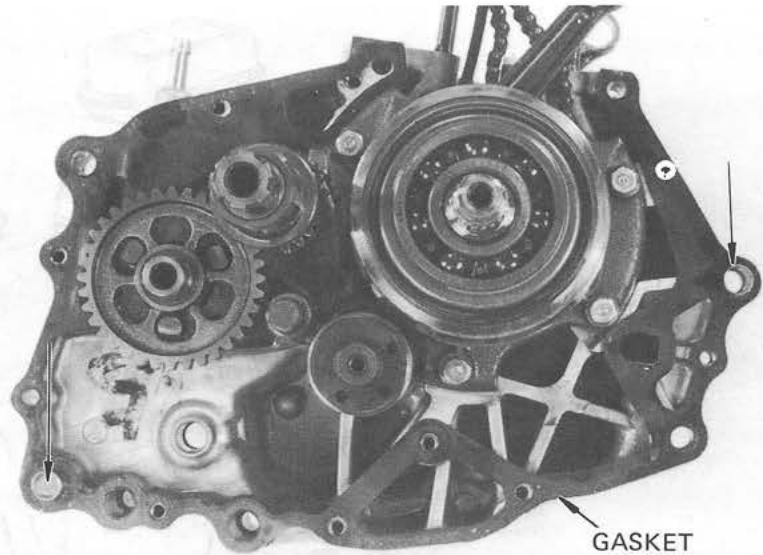
After assembly, inspect each gear for smooth operation by rotating the main shaft.





CRANKCASE ASSEMBLY

Insert the dowel pins and install the gasket correctly.



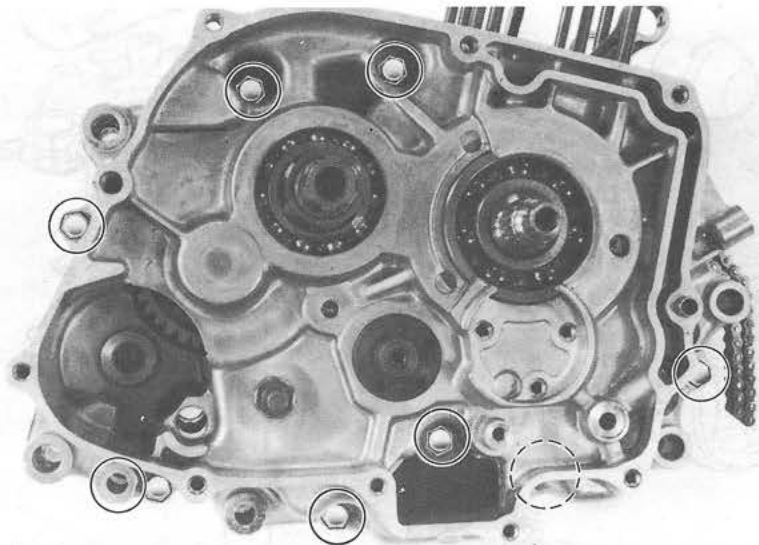
Install the right crankcase on the left crankcase.

NOTE

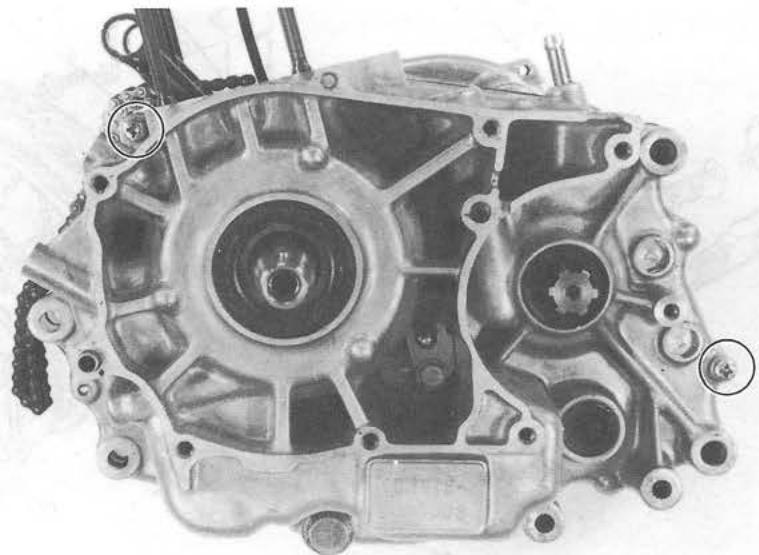
When installing, do not dislodge the gasket.

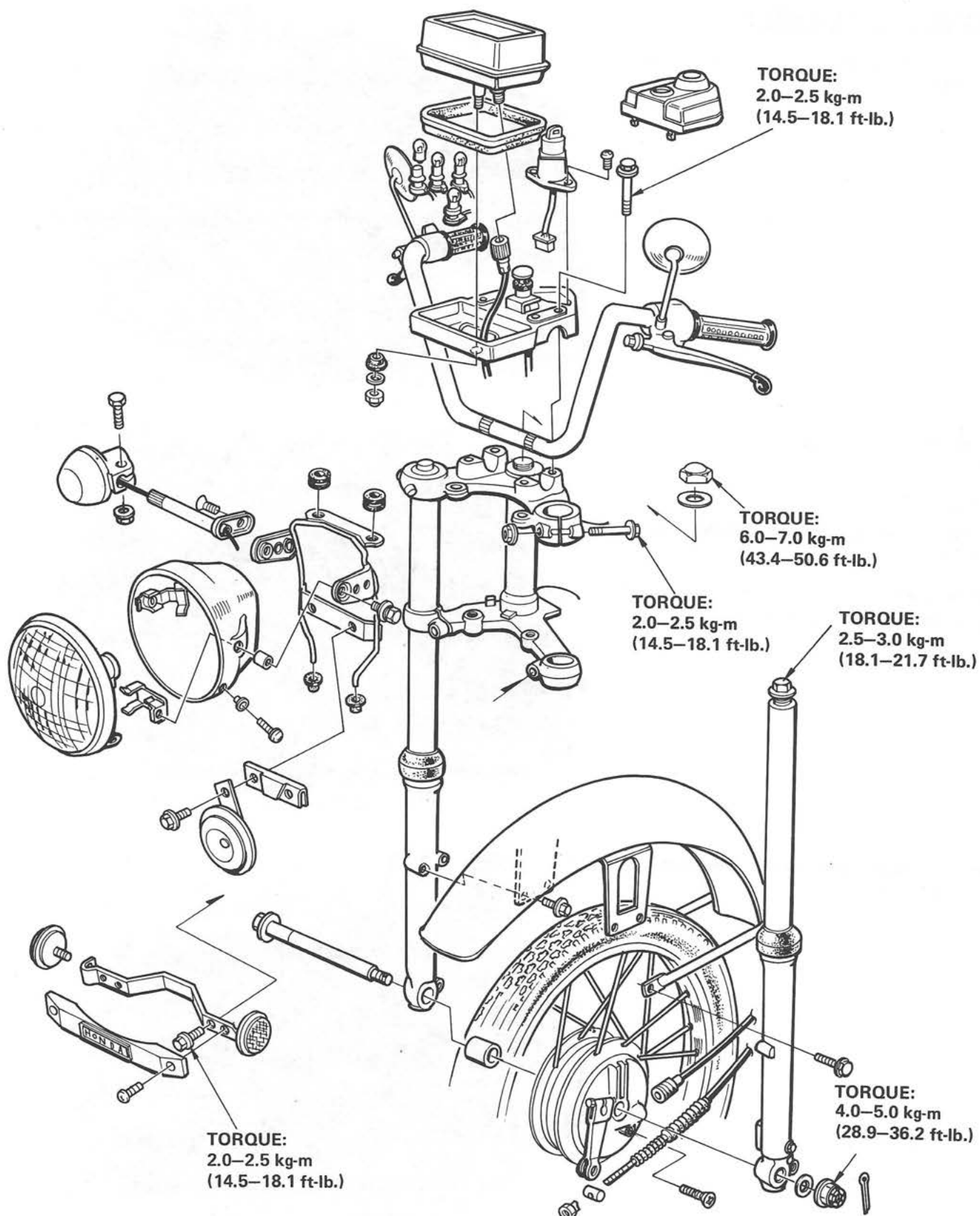
Tighten the bolts.

TORQUE: 1.0–1.4 kg-m (7.2–10.1 ft-lb.)



Place the engine with the left crankcase up and screw in the 6 mm screws.







SERVICE INFORMATION	11-1
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HANDLEBAR	11-6
FRONT WHEEL	11-8
FRONT BRAKE PANEL	11-12
FRONT FORK	11-14
STEERING STEM	11-21

SERVICE INFORMATION

● WORKING PRACTICE

This section describes removal, installation and servicing of the front wheel, the front fork and the handlebar.
This vehicle does not have a center stand. Support the engine with a jack or a block to raise the front wheel before removing it.

● SPECIFICATION

Front fork oil capacity: 125 cc (4.2 oz.)
 98 cc (3.3 oz.) at draining

● TOOLS

Special Tools

6 mm Allen wrench Tool No. 07917-3230000
Ball race driver Tool No. 07944-1150001

Common Tools

Pin spanner Tool No. 07702-0010000
Steering stem wrench (30x32) Tool No. 07716-0020400
Extension bar Tool No. 07716-0020500
Bearing driver (42x47) Tool No. 07746-0010300
Driver handle A Tool No. 07749-0010000
Driver pilot (15) Tool No. 07746-0040300
Fork seal driver body Tool No. 07747-0010100
Driver attachment (C) Tool No. 07747-0010400



● TORQUE

Steering stem nut:	6.0–7.0 kg-m (43.4–50.6 ft-lb.)
Handlebar upper holder bolt:	2.0–2.5 kg-m (14.5–18.1 ft-lb.)
Fork top bridge bolt:	2.0–2.5 kg-m (14.5–18.1 ft-lb.)
Fork bottom bridge bolt:	2.0–2.5 kg-m (14.5–18.1 ft-lb.)
Front axle nut:	4.0–5.0 kg-m (28.9–36.2 ft-lb.)
Brake cam bolt:	0.8–1.2 kg-m (5.8–8.6 ft-lb.)
Fork bolt:	2.5–3.0 kg-m (18.1–21.7 ft-lb.)
Fork socket bolt:	1.8–2.3 kg-m (13.0–16.7 ft-lb.)

● SERVICE DATA

ITEMS		STANDARD	SERVICE LIMIT
Axle shaft bend		_____	0.2 mm (0.0079 in.)
Wheel rim runout	Radial	_____	2.0 mm (0.0787 in.)
	Axial	_____	2.0 mm (0.0787 in.)
Brake lining thickness		4.0 mm (0.1575 in.)	2.0 mm (0.0787 in.)
Brake drum I.D.		140.0 mm (5.5118 in.)	141.0 mm (5.5512 in.)
Front fork	Spring free length	504.6 mm (19.9 in.)	495 mm (19.5 in.)
	Tube O.D.	30.925–30.950 mm (1.2175–1.2185 in.)	30.87 mm (1.2154 in.)
	Slider I.D.	31.042–31.104 mm (1.2221–1.2246 in.)	31.165 mm (1.2270 in.)
	Tube run-out	_____	0.2 mm (0.0079 in.)



TROUBLESHOOTING

Wobble or Vibration in Motorcycle

1. Loose axle
2. Loose wheel bearings
3. Loose steering stem nut or bearings
4. Unbalanced tire and wheel
5. Loose spokes
6. Bent wheel
7. Excessive lateral runout in wheel
8. Bent fork

Hard Steering

1. Low tire pressure
2. Steering top thread nut too tight
3. Faulty steering stem bearings
4. Insufficient lubrication in steering stem bearings
5. Steering stem bent
6. Faulty cone race or ball race

Steers to One Side or Does Not Track Straight

1. Bent fork
2. Bent axle
3. Forks installed in triple crown incorrectly
4. Wheel installed incorrectly

Hard Front Suspension

1. Incorrect weight fluid in front forks
2. Clogged fork hydraulic passages
3. Fork sliders binding on fork legs

Soft Front Suspension

1. Incorrect weight fluid in front forks
2. Too much clearance inside forks
3. Broken fork spring(s)

Suspension Noise

1. Incorrect fluid level in forks
2. Broken parts in forks
3. Steering stem nut too loose
4. Loose axle

Front Forks Leaking

1. Faulty fork seals
2. Too much fluid in forks
3. Incorrect weight fluid in forks
4. Fork tubes pitted or scratched



HEADLIGHT

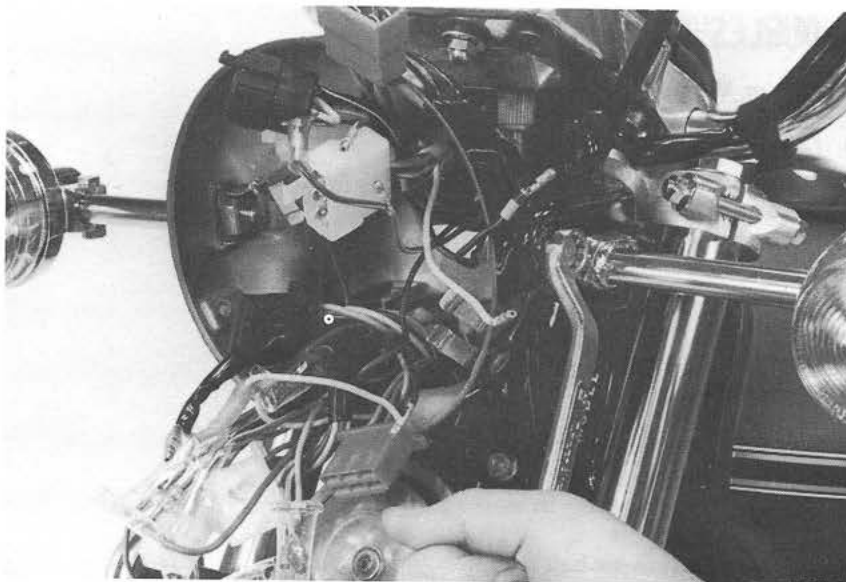
● HEADLIGHT CASE REMOVAL

Remove the headlight and disconnect each coupler and connector

NOTE

Do not cut the wires.

Remove the headlight case from headlight bracket by unscrewing the bolts.

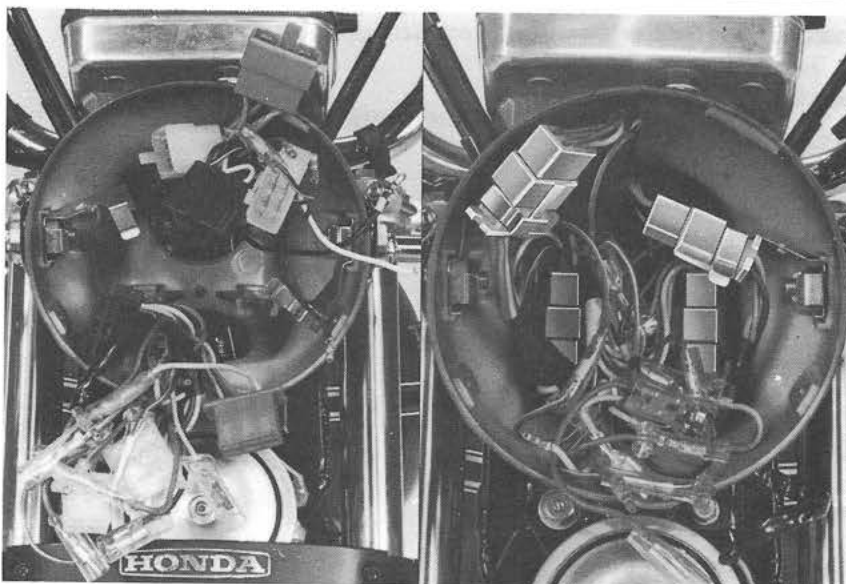


● WIRING IN THE HEADLIGHT CASE

Run each wire through the holes of headlight case.

The wire and breather harnesses should be passed through lower hole.

Connect the wires color-to-color and set each coupler into the holder in the headlight case as shown.

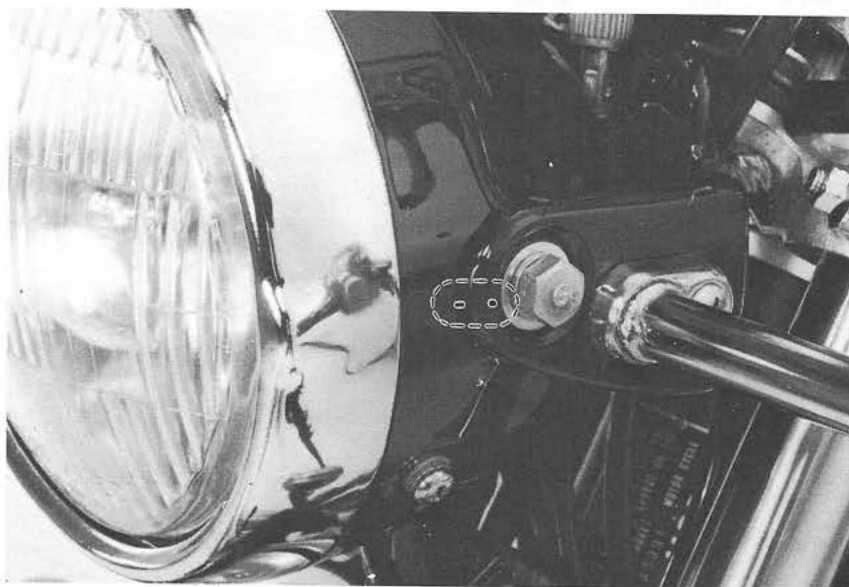


● HEADLIGHT CASE INSTALLATION

Align the lines on the headlight case with the punch marks on the headlight brackets.

NOTE

After assembly, inspect each switch operation.





SPEEDOMETER

● SPEEDOMETER REMOVAL

Unscrew the cap nut under the speedometer.
Remove the cable from the speedometer.
Remove the headlight and disconnect the speedometer wire.
Pull off the speedometer.



● IGNITION SWITCH REMOVAL

Remove the headlight and pull off the ignition switch coupler.
Pull off the handlebar holder cover.
Remove the handlebar holder, lift the handlebar and remove the ignition switch.



● METER BULB REPLACEMENT

Remove the speedometer and pull out the socket for each bulb.
Replace the bulbs.
Install the speedometer.



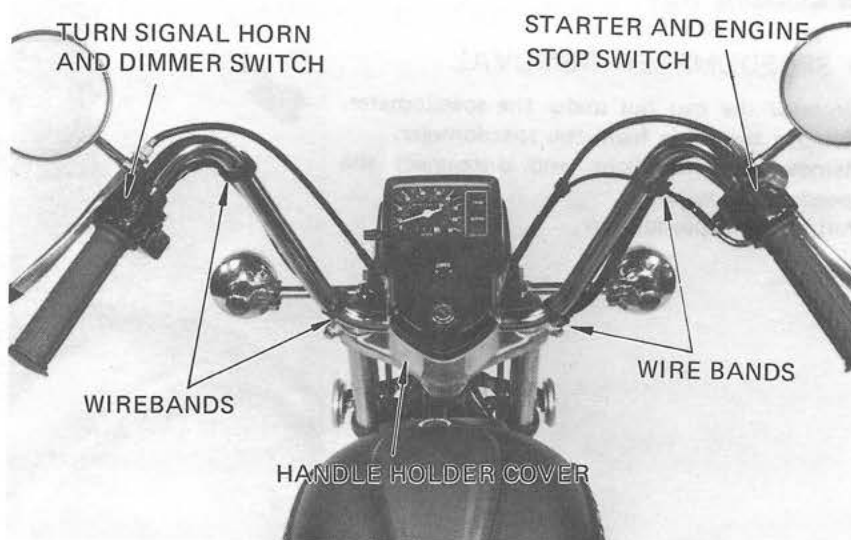


HANDLEBAR

● HANDLEBAR REMOVAL

Loosen the two screws at the starter switch and remove the wire band.

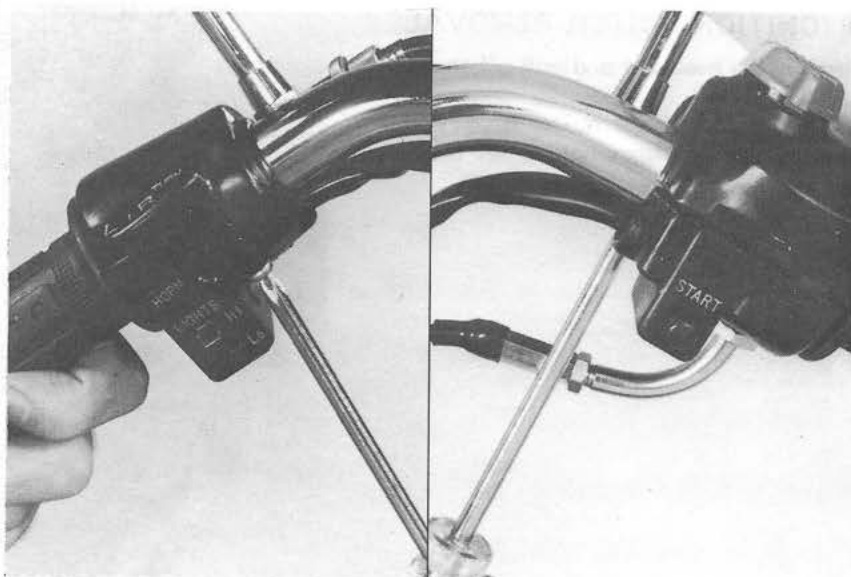
Remove the throttle grip and switch with the front brake cable and throttle cable.



Remove the two screws at the lighting and horn switch.

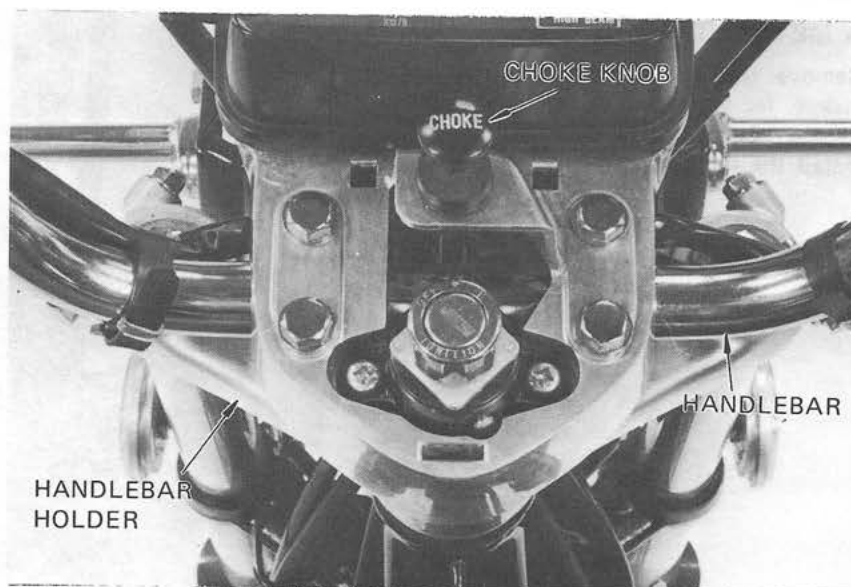
Remove the wire harness band.

Remove the switch and the clutch cable.



Remove the handlebar holder cover and the handlebar holder.

Pull up the handlebar.





● **HANDLEBAR INSTALLATION**

Place the handlebar on the lower holder.

NOTE

Align the punch marks on the handlebar with the top face of the lower holder.

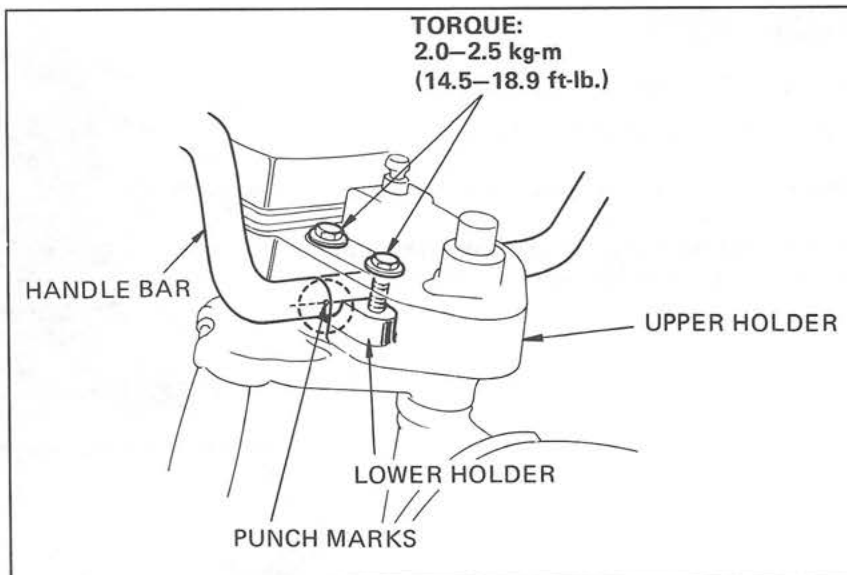
Install the upper holder.

Tighten the holder bolts.

TORQUE: 2.0–2.5 kg-m (14.5–18.1 ft-lb.)

NOTE

Tighten the forward bolts first.

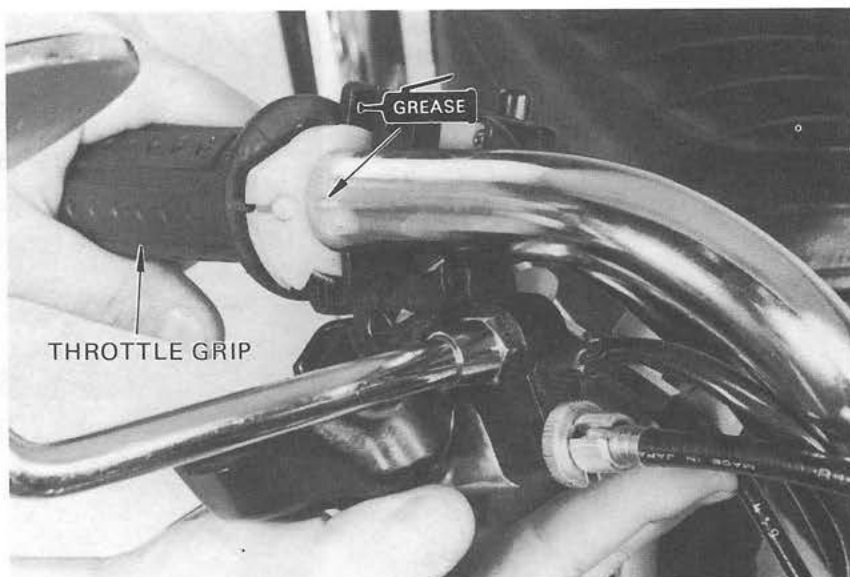


Grease the sliding face of throttle grip.

Install the throttle grip and the starter switch.

NOTE

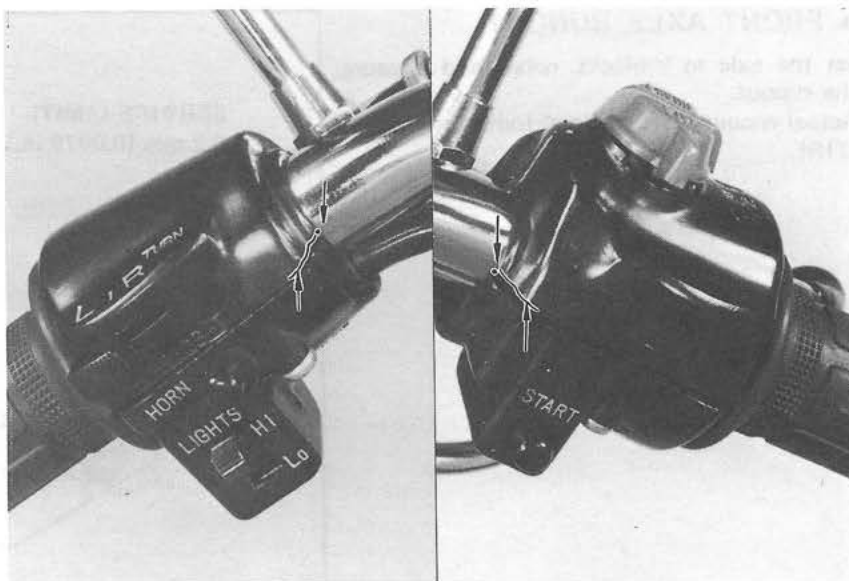
Align the slit of the starter switch housing with punch mark on the handlebar.
Tighten the forward screw first.



Install the turn signal and horn switch.

NOTE

Align the slit of the switch housing with punch mark on the handlebar.
Tighten the forward screw first.





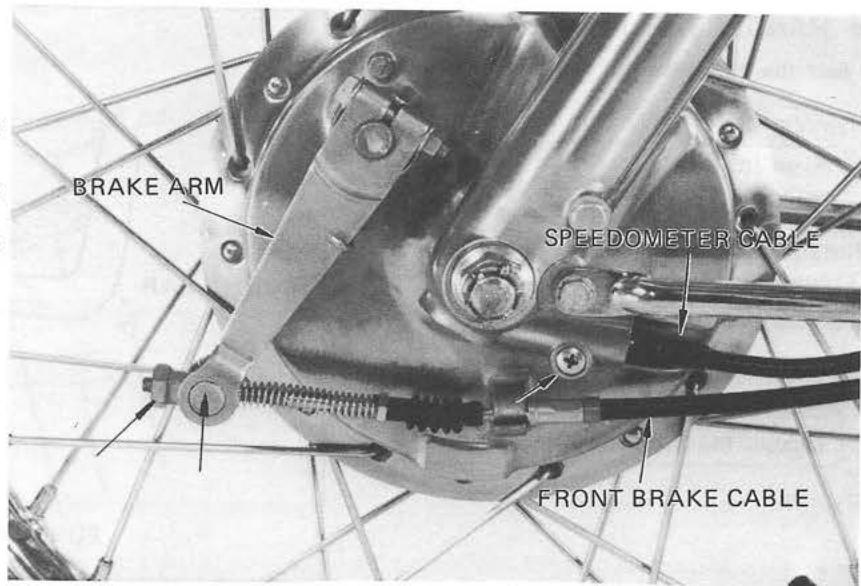
FRONT WHEEL

● FRONT WHEEL REMOVAL

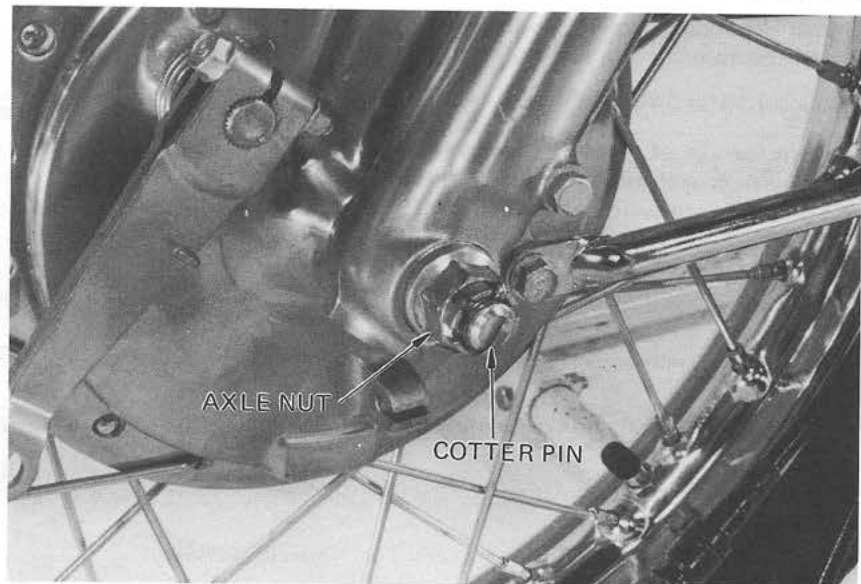
Place a block under the engine so the wheel is free.

Remove the retaining screw and disconnect the speedometer cable.

Remove the adjusting nut and the brake arm pin, and disconnect the brake cable.



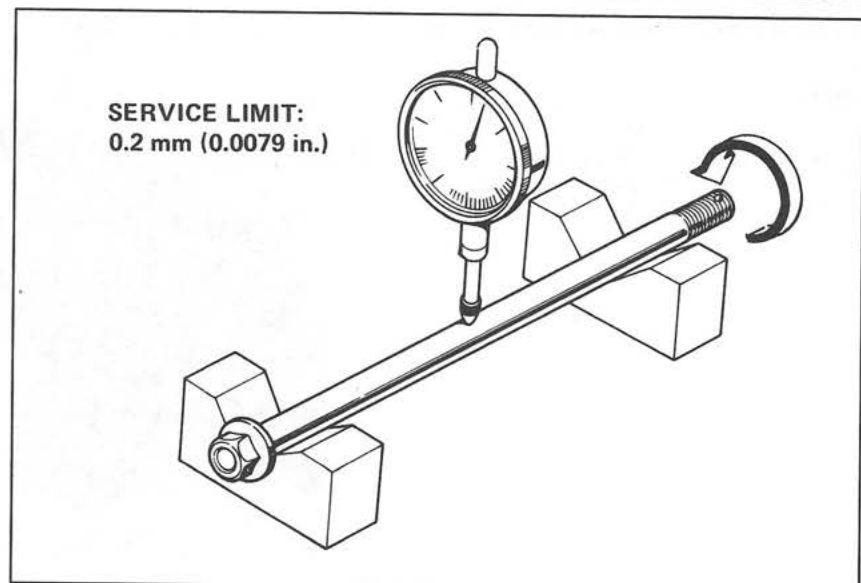
Pry off the cotter pin and remove the axle nut. Pull the axle shaft out and remove the front wheel.



● FRONT AXLE RUNOUT

Set the axle in V-blocks, rotate and measure the runout.

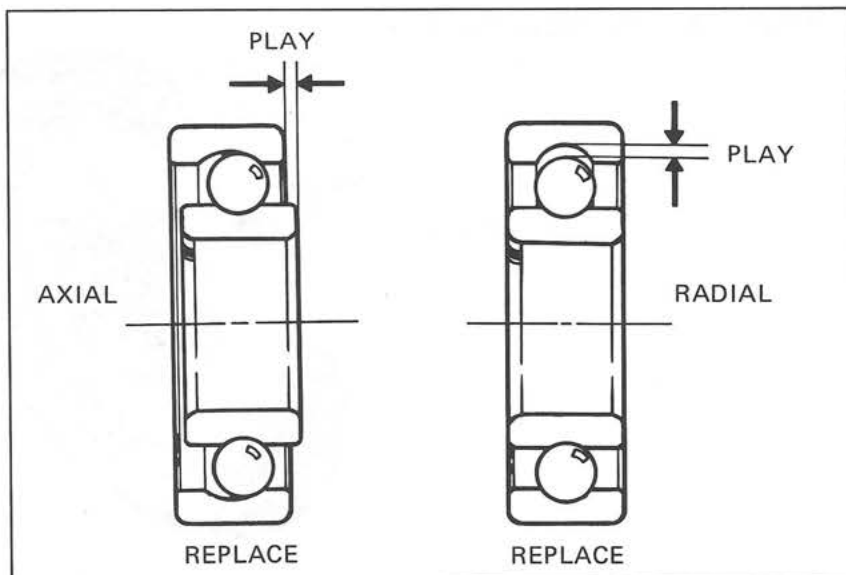
Actual runout is 1/2 of Total Indicator Reading (TIR).





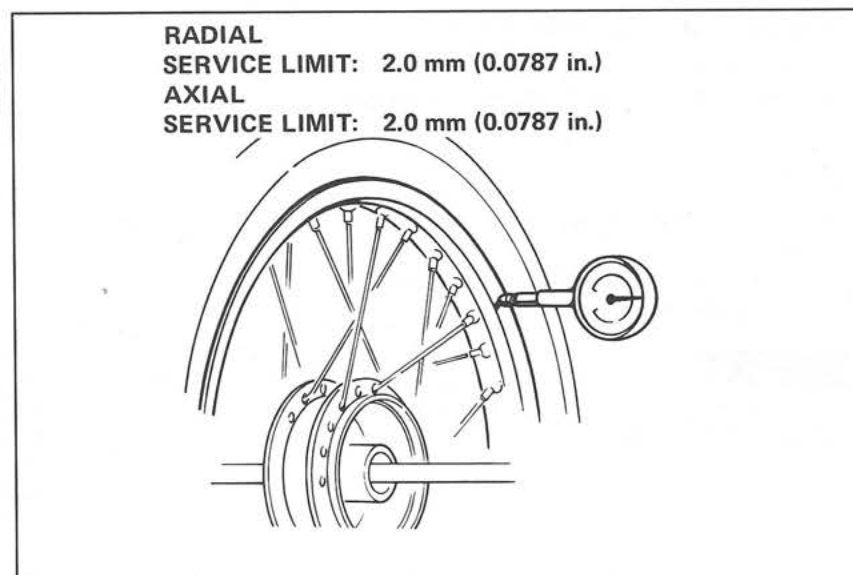
● FRONT WHEEL BEARING INSPECTION

Check wheel bearings by placing the wheel on a truing stand and spinning the wheel by hand. Replace the bearings if they are noisy or have excessive play.



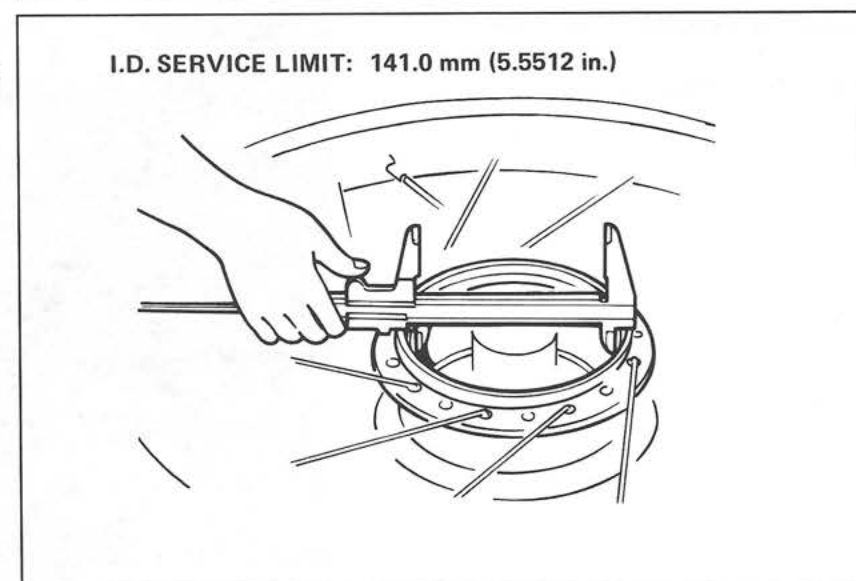
● WHEEL RIM RUNOUT

Check rim runout on a truing stand. Spin the wheel by hand and read the runout using a dial indicator.



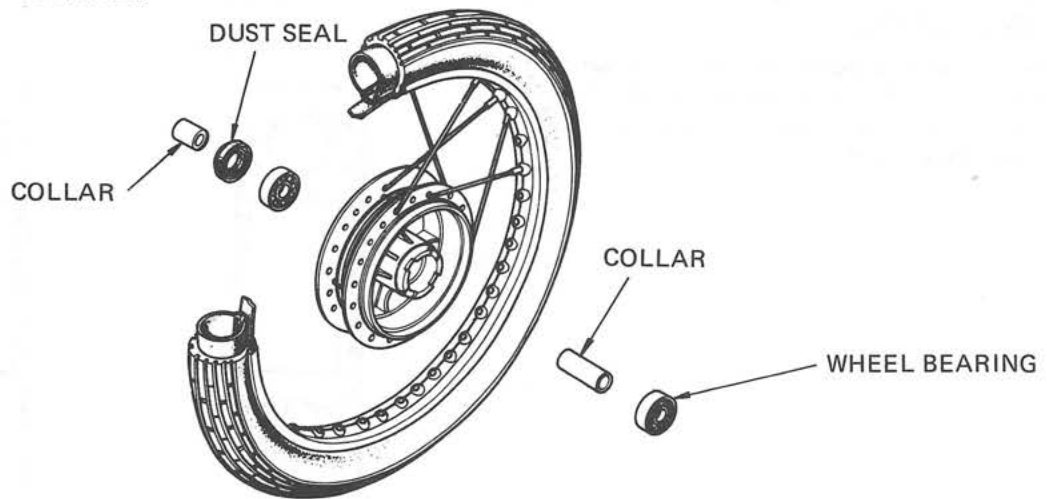
● FRONT BRAKE DRUM I.D.

Remove the brake panel from the front wheel. Inspect the brake drum I.D.





● FRONT WHEEL DISASSEMBLY



● FRONT WHEEL ASSEMBLY

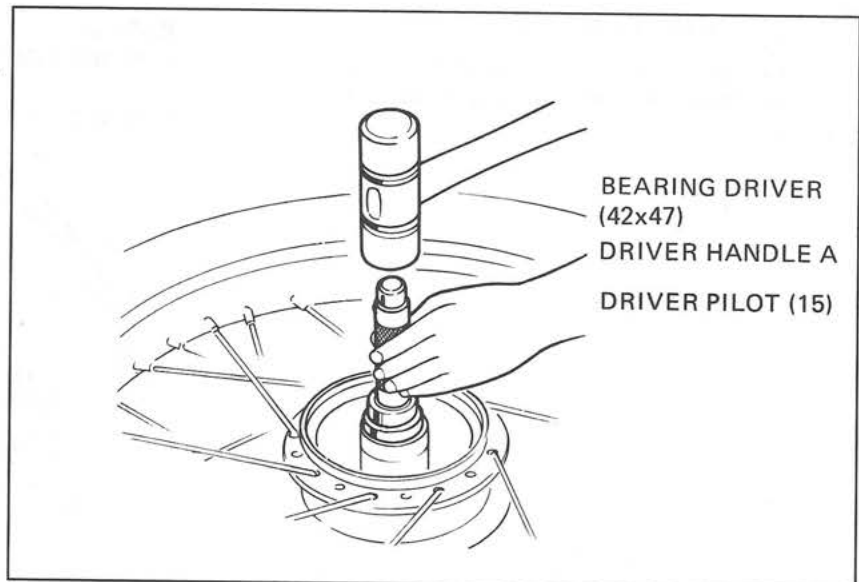
Pack all front wheel bearing cavities with grease. Install the bearing on each side with a bearing driver.

NOTE

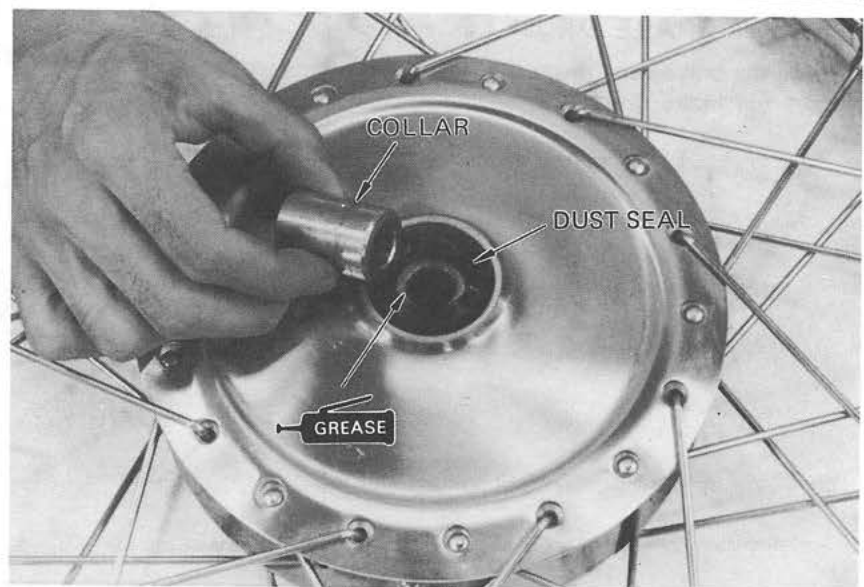
- Do not allow the bearing to tilt while driving.
- Install the bearing with the sealed end facing the outside.

WARNING

Avoid getting grease on the inside face of the brake drum.



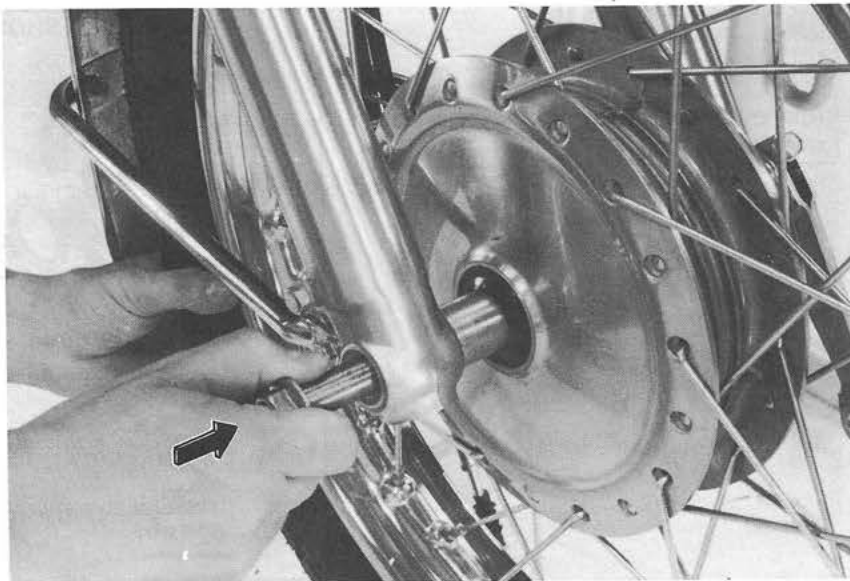
Grease the inside of the dust seal. Install the dust seal and the collar on right side of front wheel hub.





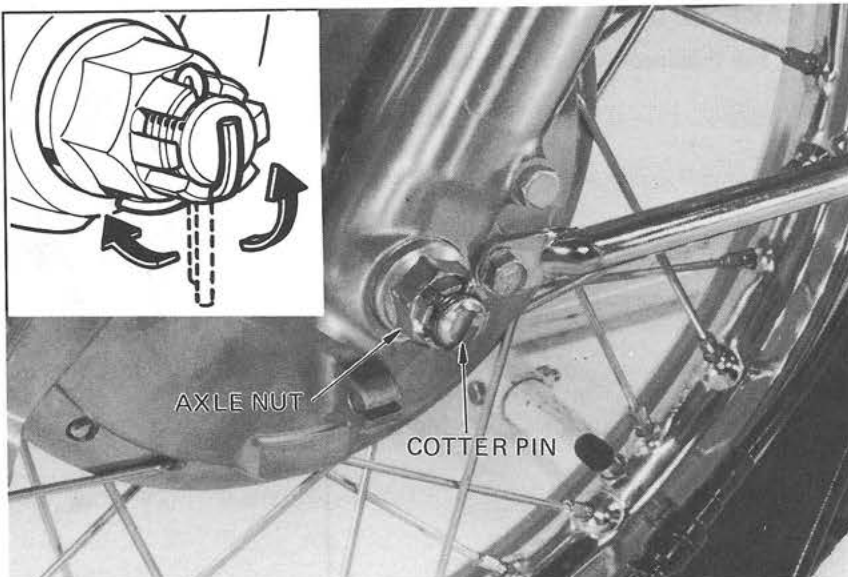
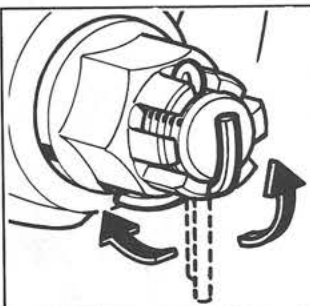
● **FRONT WHEEL INSTALLATION**

Install the brake panel into the front wheel.
Install the axle shaft from the right side.

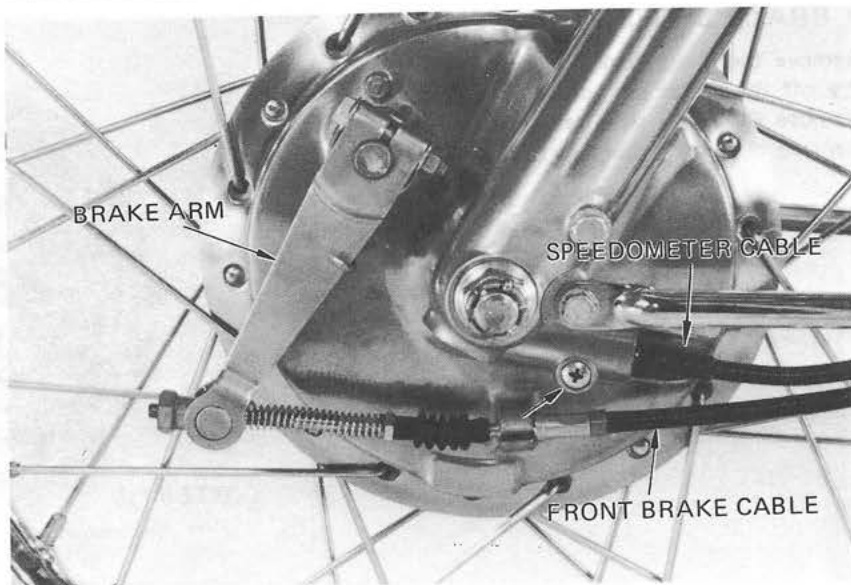


Tighten the axle nut and install the cotter pin.
Spread the cotter pin ends as shown.

TORQUE: 4.0–5.0 kg-m (28.9–36.2 ft-lb.)



Install the speedometer cable.
Install the front brake cable through the brake arm, and adjust the brake.
Check the brake lever free play and inspect the speedometer operation.

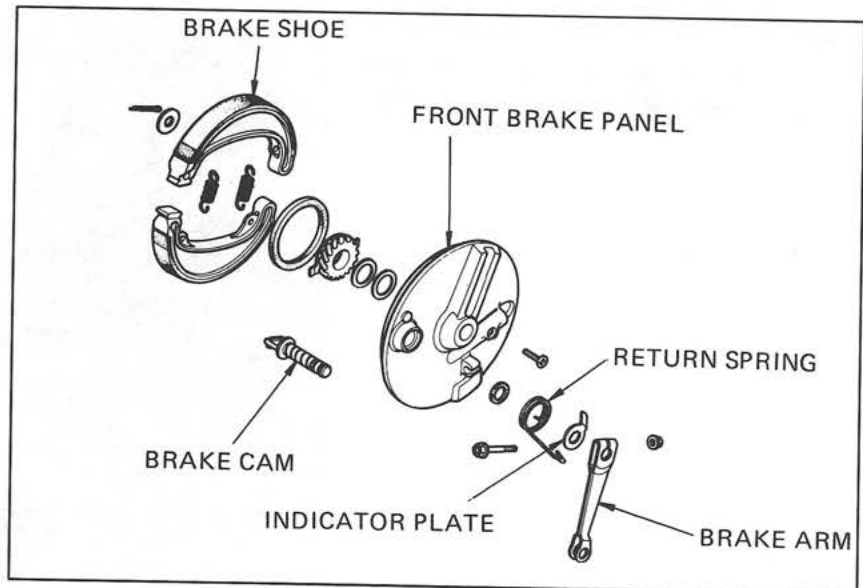




FRONT BRAKE PANEL

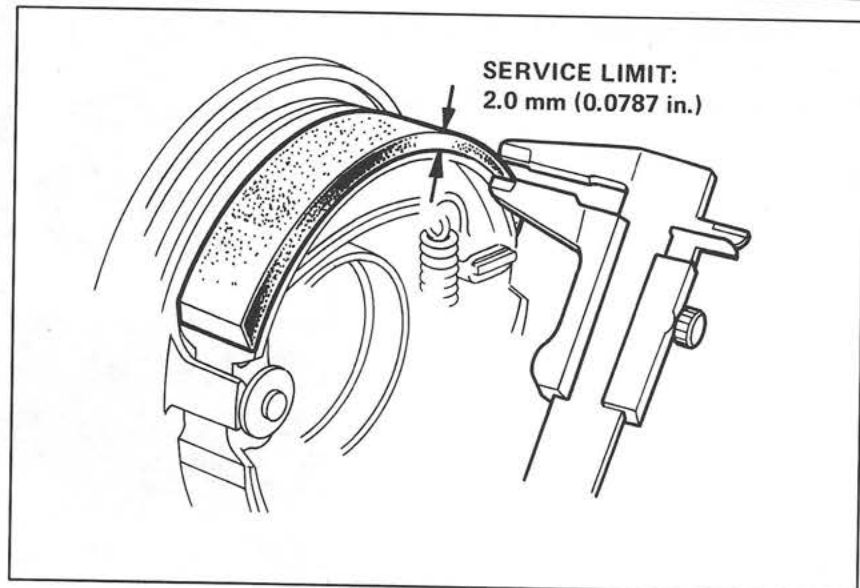
NOTE

Apply grease to the speedometer gear when assembling.



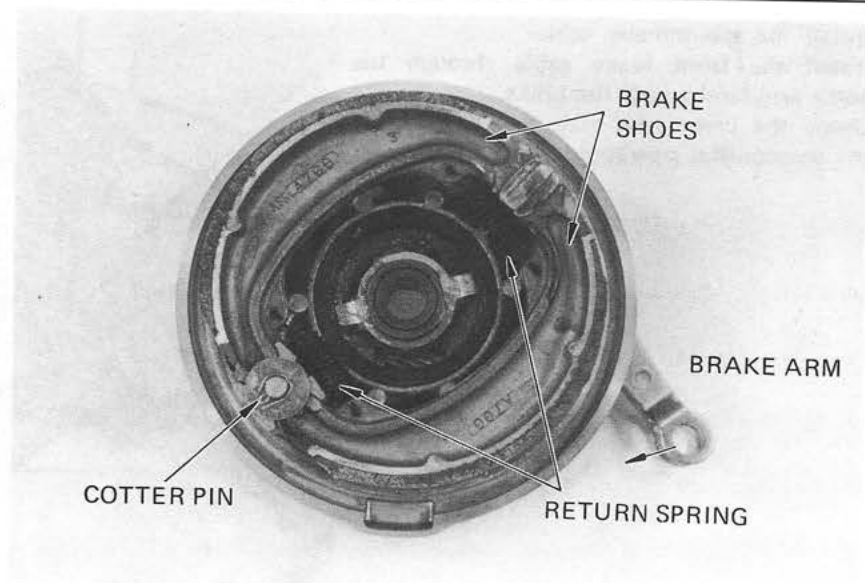
• BRAKE LINING INSPECTION

Inspect the thickness of brake linings.



• BRAKE SHOES REPLACEMENT

Remove the brake arm.
 Pry off the cotter pin and remove the washer.
 Remove the brake shoe return springs.
 Replace the brake shoes as a set.



**HONDA****CM185T****STEERING/FRONT WHEEL/FRONT SUSPENSION**

Grease the sliding surface of the brake cam and install.

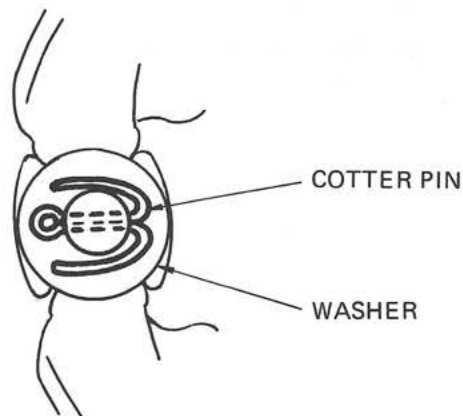
Install the return springs on the brake shoes.

Install the washer.

Insert the cotter pin and spread the ends as shown.

WARNING

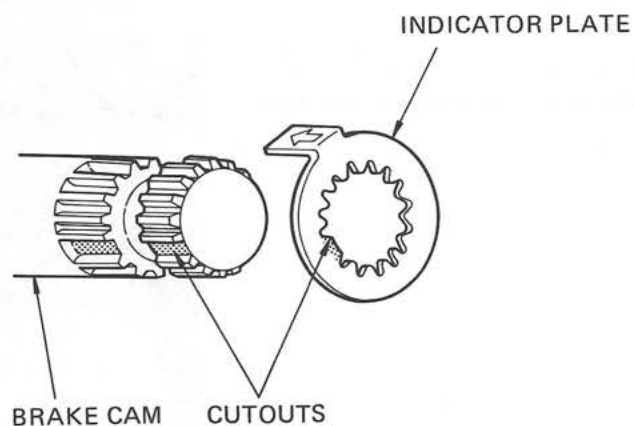
Avoid getting grease on the brake lining.



Install the dust seal and the indicator plate on brake cam.

NOTE

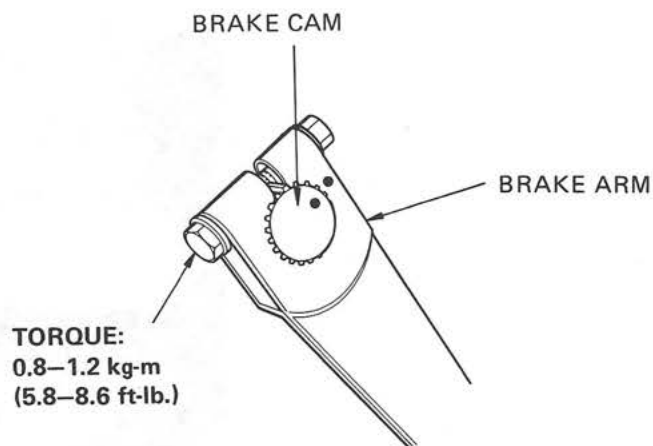
Align the cutouts.



Install the return spring and brake arm. Tighten the brake arm bolt and nut.

NOTE

Align the punch marks.

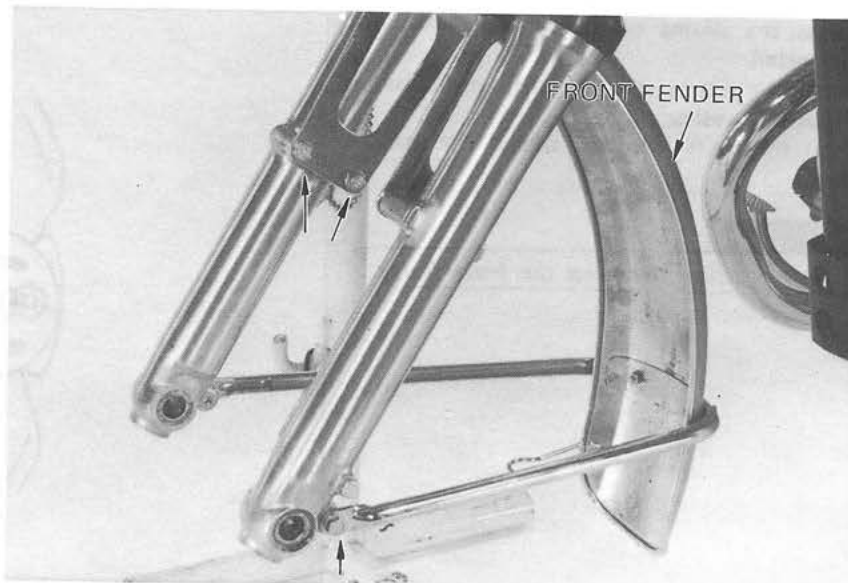




FRONT FORK

• FRONT FORK REMOVAL

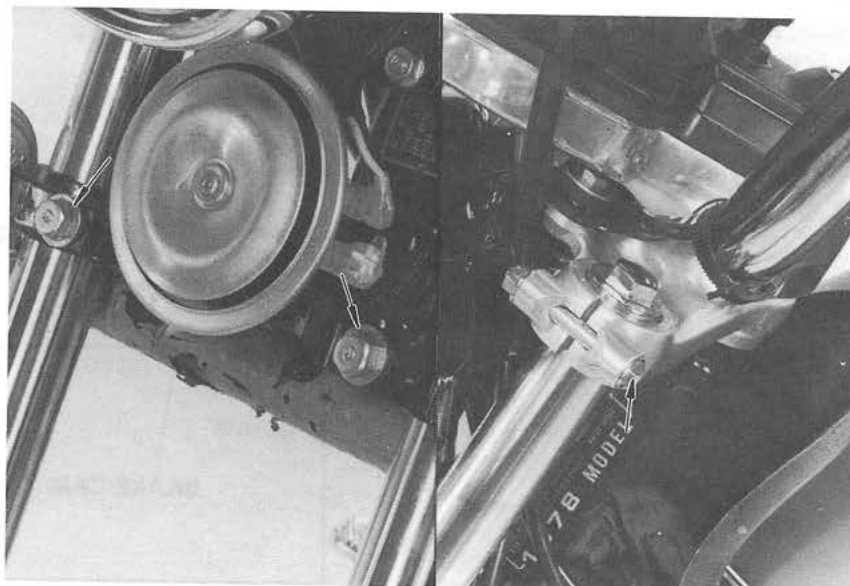
Remove the front wheel. (See page 11-8.)
Remove the front fender.



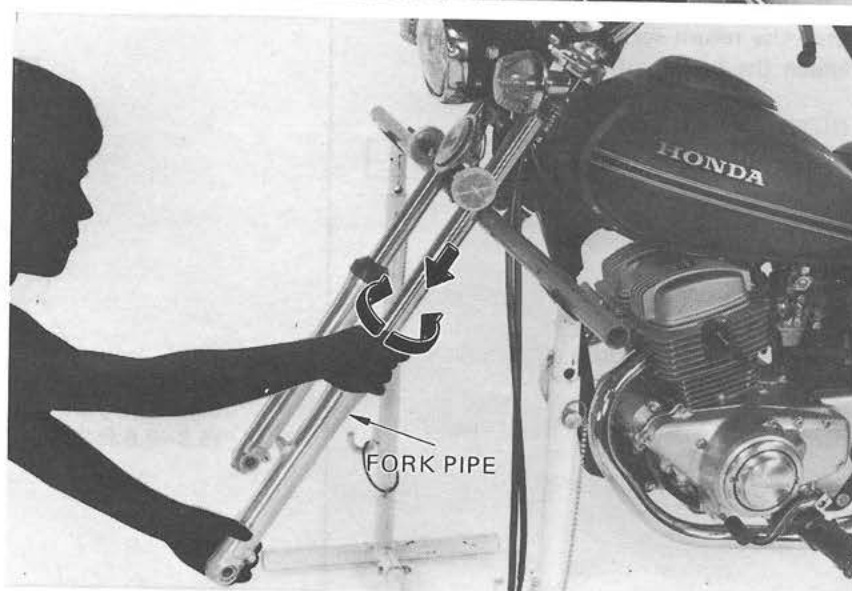
Loosen the bolts on the fork top and bottom bridges.

NOTE

Slightly loosening the fork bolt while it is installed in the stem makes disassembly easier.



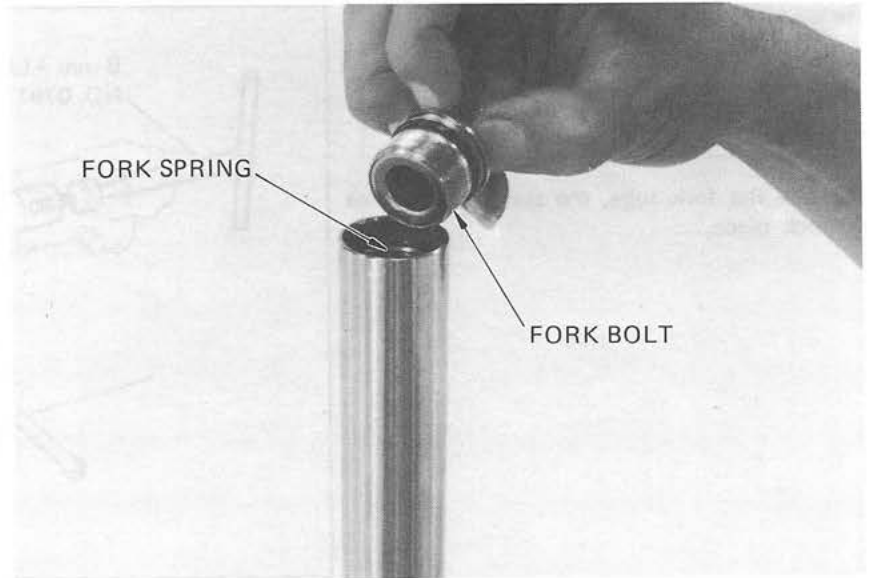
Pull down while turning the fork tube





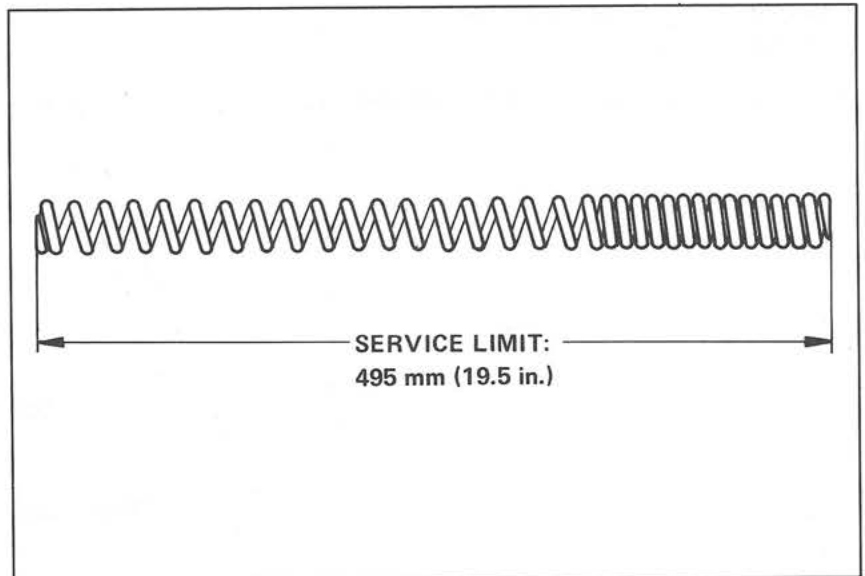
- FRONT FORK DISASSEMBLY

Remove the fork bolt.
Remove the fork spring.

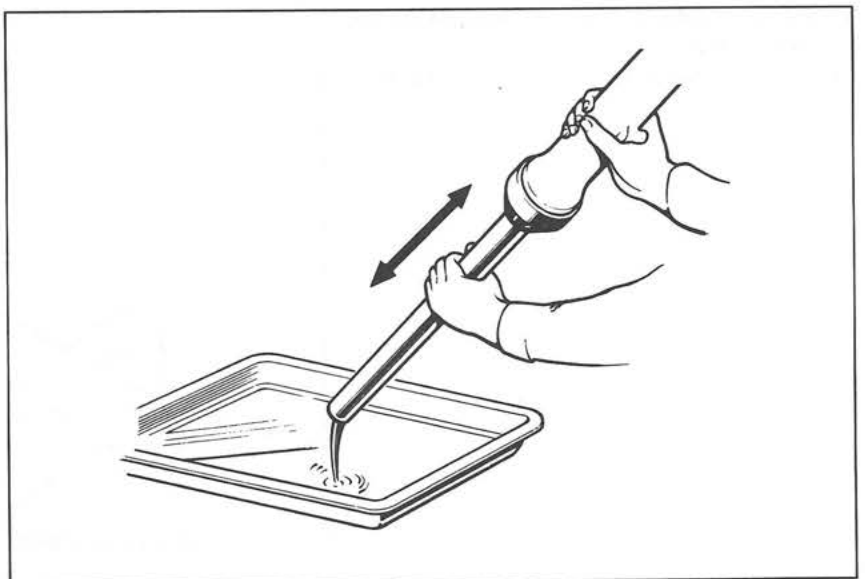


- FRONT FORK SPRING FREE LENGTH

Inspect the fork spring free length.



Drain the ATF from fork by pumping it up and down.



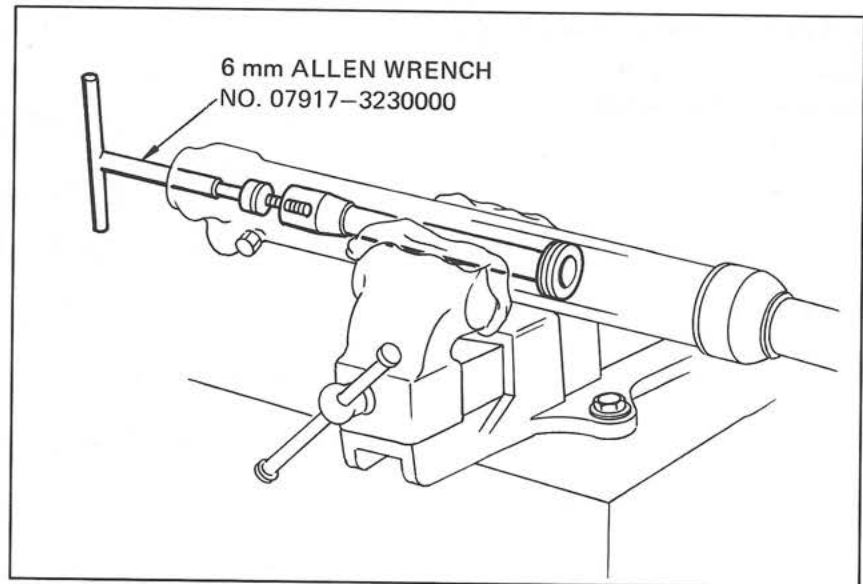


Remove the socket bolt with the Allen wrench.

NOTE

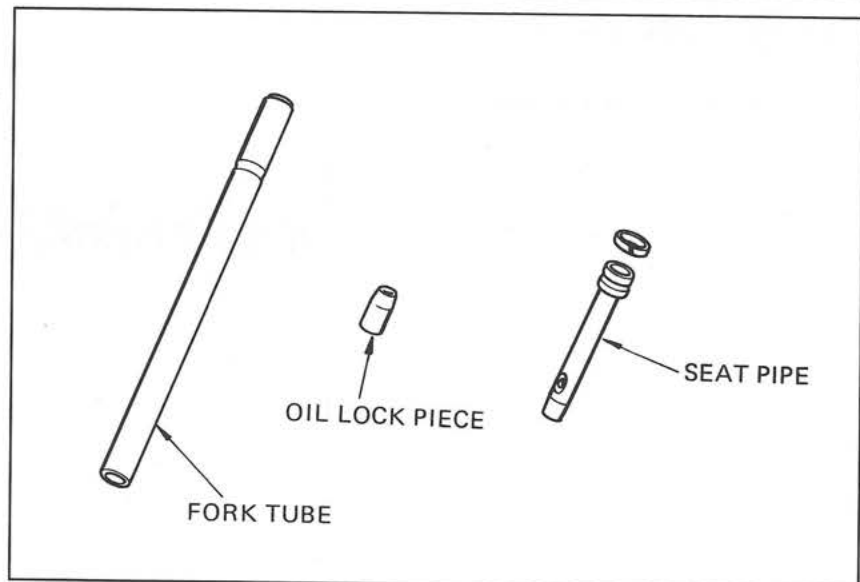
Remove the socket bolt to facilitate fork removal.

Remove the fork tube, the seat pipe and the oil lock piece.

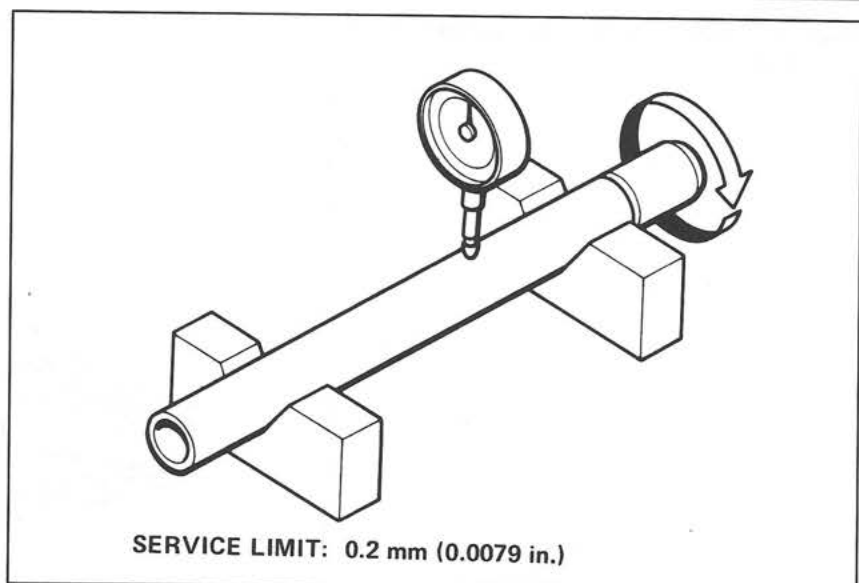


● **FORK TUBE AND PISTON INSPECTION**

Check the fork tube and the piston for wear



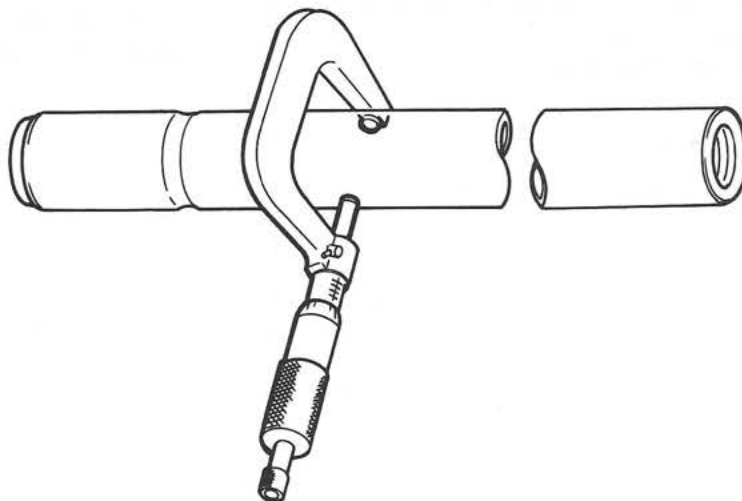
Set the fork tube in V-blocks and check run-out with a dial indicator. Divide total indicator reading by 2 to determine actual runout.



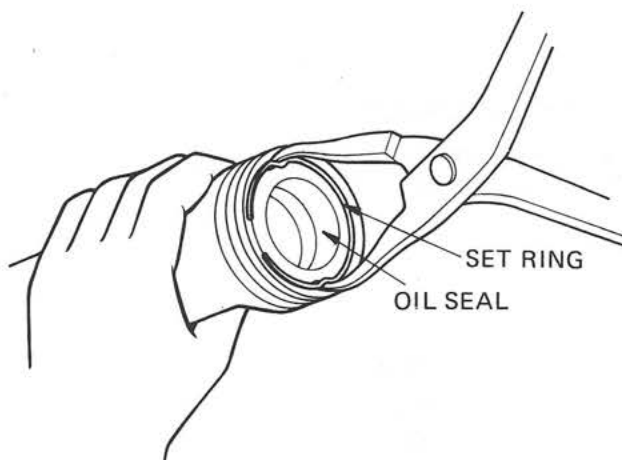


Measure at several points along the sliding surface (260 mm from bottom to top).

O.D. SERVICE LIMIT: 30.87 mm (1.2154 in.)



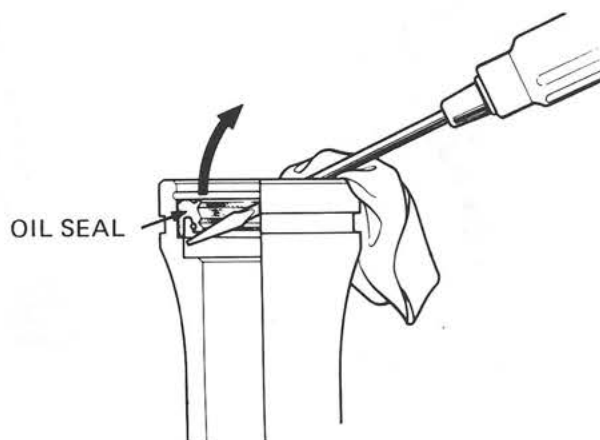
Remove the dust seal and pry off the set ring with the snap ring pliers.



Remove the oil seal.

NOTE

Use care when removing the oil seal not to damage the fork slider with a screwdriver.



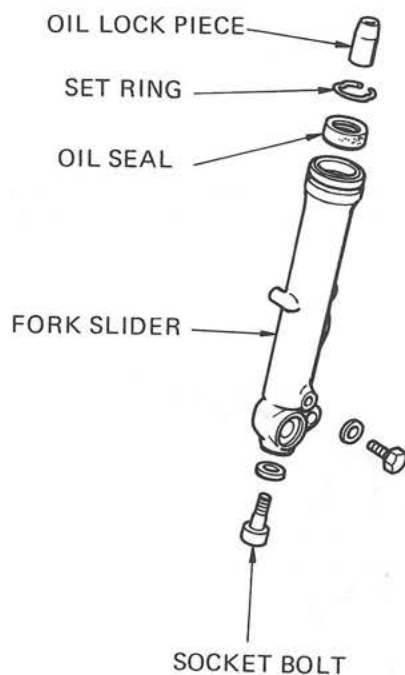
**● BOTTOM CASE INSPECTION**

Inspect the inside surface of the fork slider for wear or damage.
Measure the slider I.D.

I.D. SERVICE LIMIT:
31.165 mm (1.2270 in.)

**● FRONT FORK ASSEMBLY**

Before assembly, wash the parts in solvent and wipe them off completely.



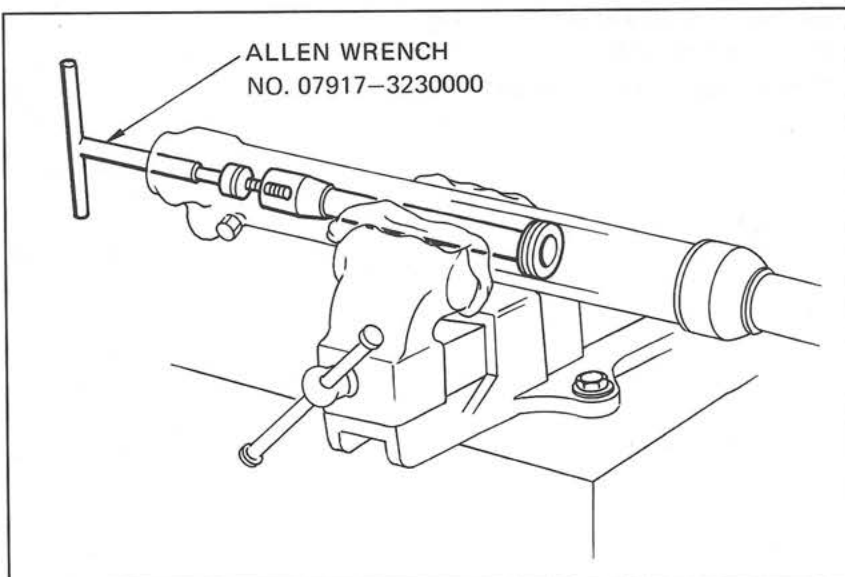


Insert the seat pipe into the fork tube and set the oil lock piece on the end of seat pipe. Insert the parts into the fork slider and tighten the socket bolt with the 6 mm Allen wrench.

TORQUE: 1.8–2.3 kg-m (13.0–16.7 ft-lbs.)

NOTE

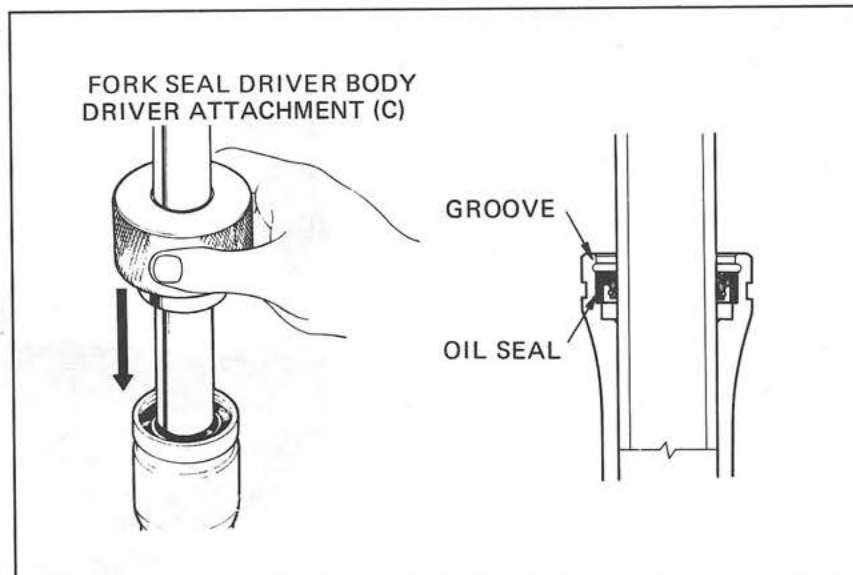
Apply locking agent to the socket bolt.



Install the oil seal in the top of the slider.

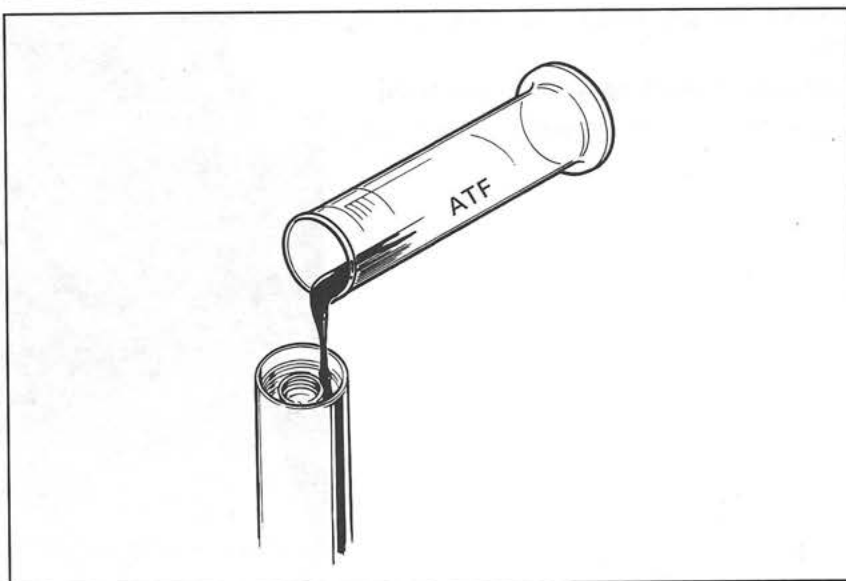
NOTE

Apply ATF to the oil seal and install it with the fork seal driver. Fork seal is seated when the groove in the slider is visible at the top of the seal.



Install the snap ring into the groove of the fork slider with snap ring pliers. Fill the forks with good quality ATF.

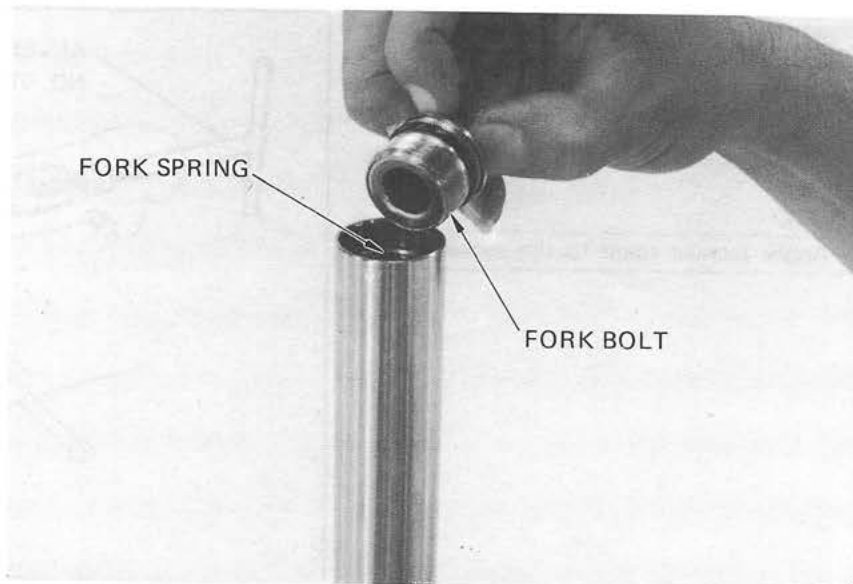
CAPACITY: 125 cc (4.2 oz.)
at assembly





Install the fork spring and the O-ring.
Tighten the fork bolt.

TORQUE: 2.5–3.0 kg-m (18.1–21.7 ft-lb.)

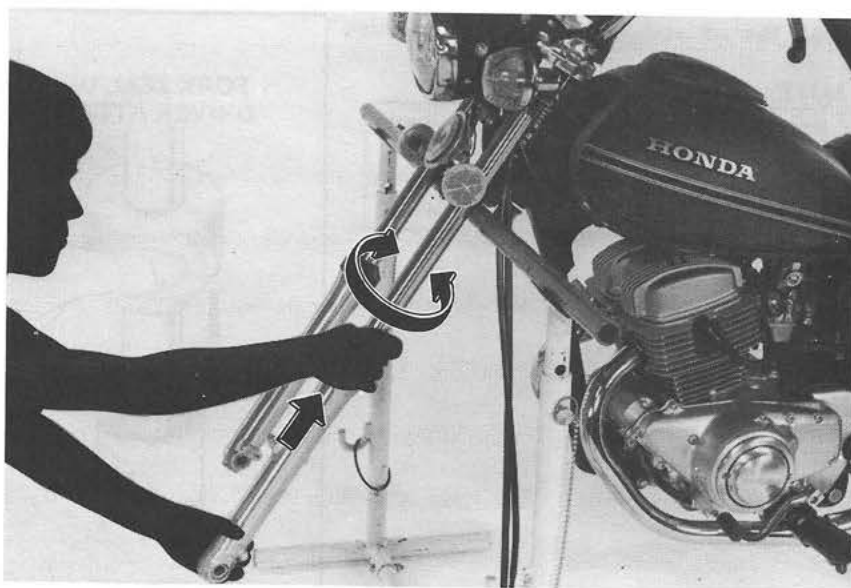


● FRONT FORK INSTALLATION

Install the front fork into the top bridge.

NOTE

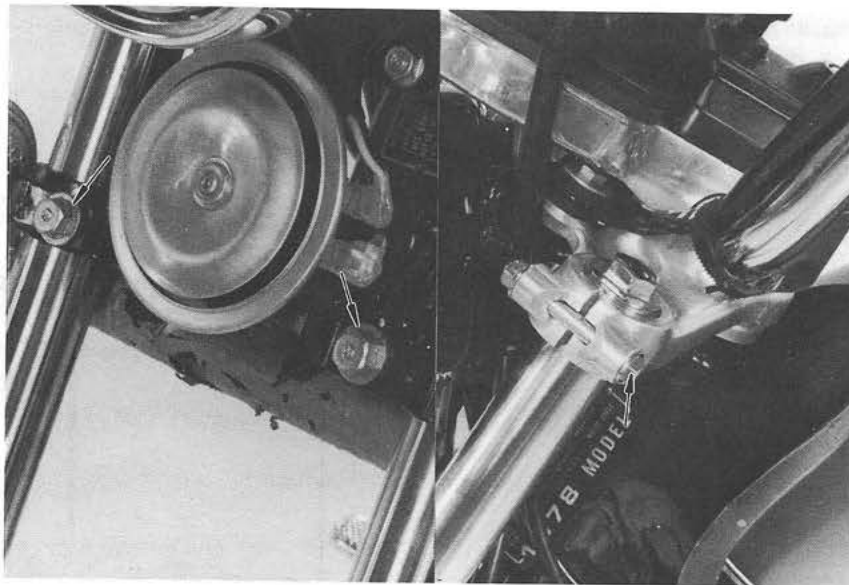
Align front fork top end with top surface of fork bridge.



Tighten the top bridge and bottom bridge bolts.

TORQUE: 2.0–2.5 kg-m (14.5–18.1 ft-lb.)

Install the front fender and the front wheel.





STEERING STEM

• TOP BRIDGE REMOVAL

Remove the steering handlebar.
(See page 11-6.)

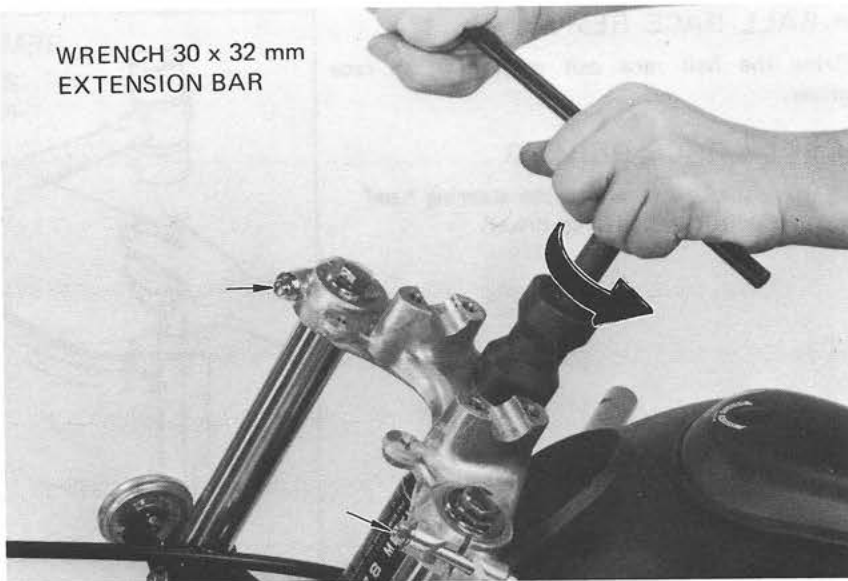


Remove the headlight and headlight case.
Remove the headlight bracket.



Remove the stem nut.
Loosen the fork top bridge bolts and remove
the top bridge.

WRENCH 30 x 32 mm
EXTENSION BAR





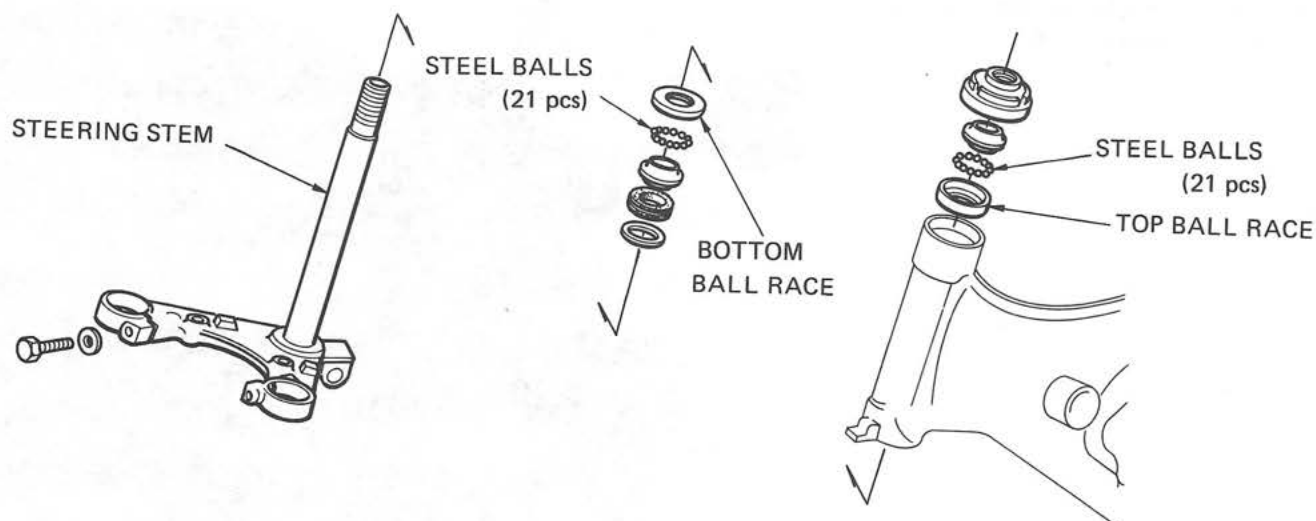
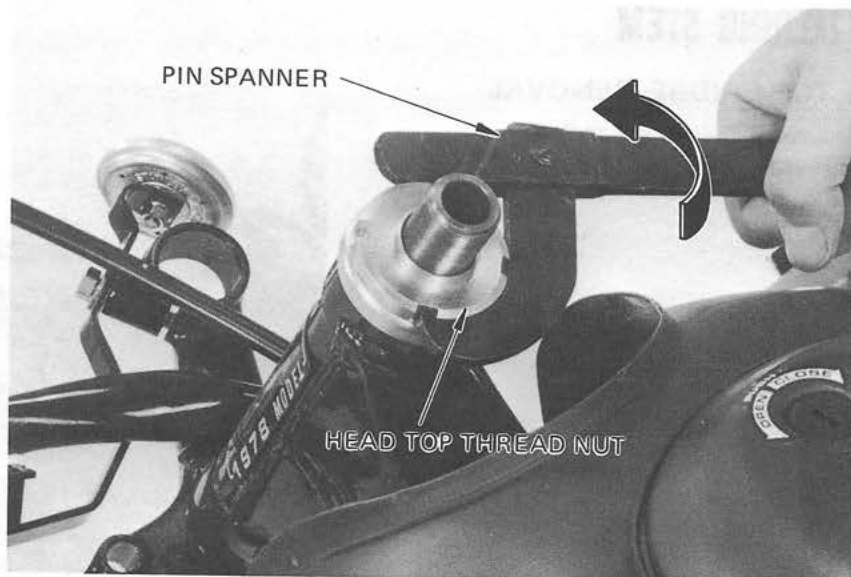
● STEERING STEM REMOVAL

Remove the front fork.
 Remove the head top thread.

NOTE

Support the stem to prevent it from falling and remove the upper cone race and ball bearings.

Remove the steering stem

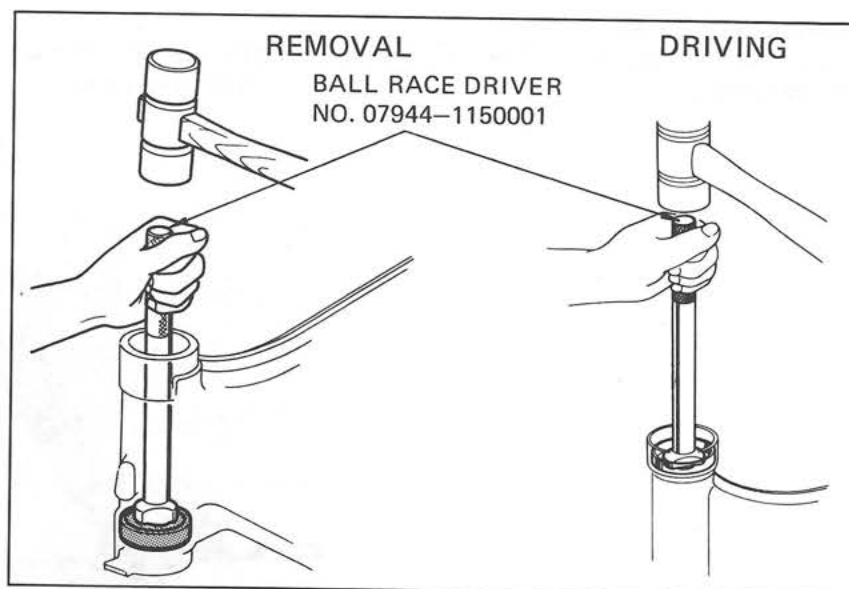


● BALL RACE REMOVAL

Drive the ball race out with the ball race driver.

● BALL RACE DRIVING

Drive the ball race into the steering head pipe with the ball race driver.



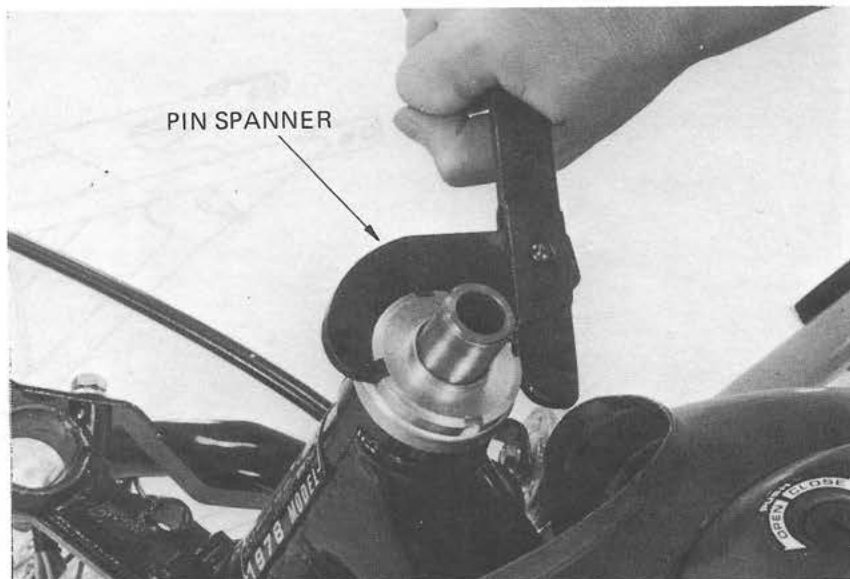


● STEERING STEM ASSEMBLY

Install the steel balls, the cone races, the dust seal and the steering stem.

NOTE

- Grease the steel balls and the ball race.
- Tighten the top thread nut until sunk against the top ball race and back off about 1/8 turn.
- Check that the stem rotates freely without play.



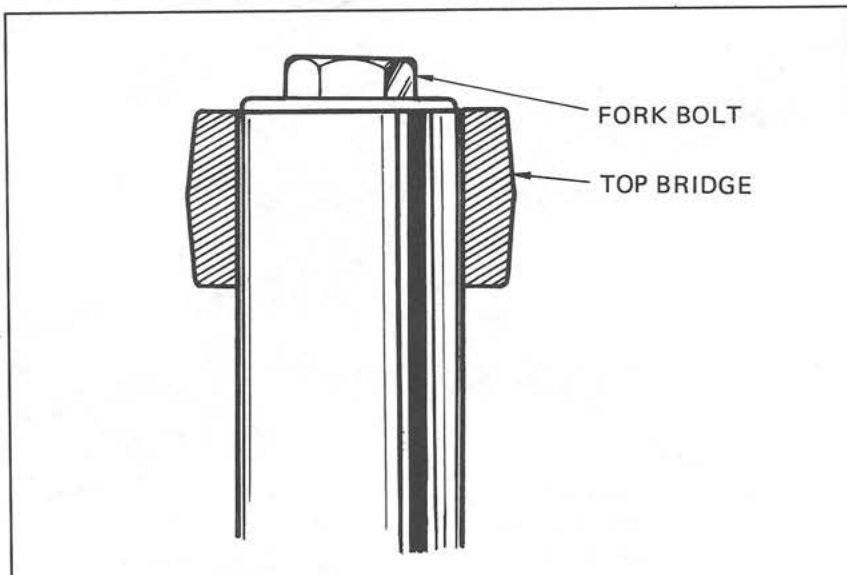
Install the top bridge and the front fork.

NOTE

Align the fork top end with the top face of the fork top bridge, as shown.

Tighten the lower bridge bolts.

TORQUE: 2.0–2.5 kg-m
(14.5–18.1 ft-lb.)



Tighten the stem nut.

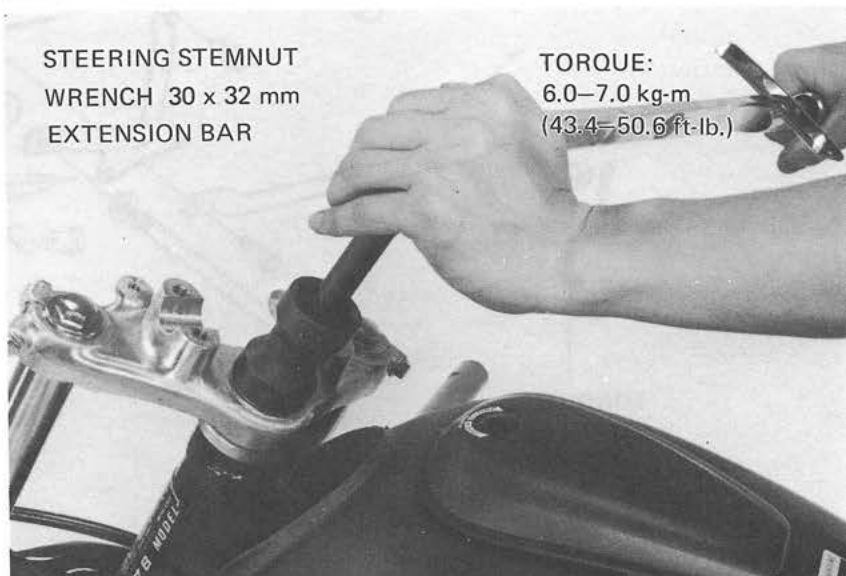
TORQUE: 6.0–7.0 kg-m (43.4–50.6 ft-lb.)

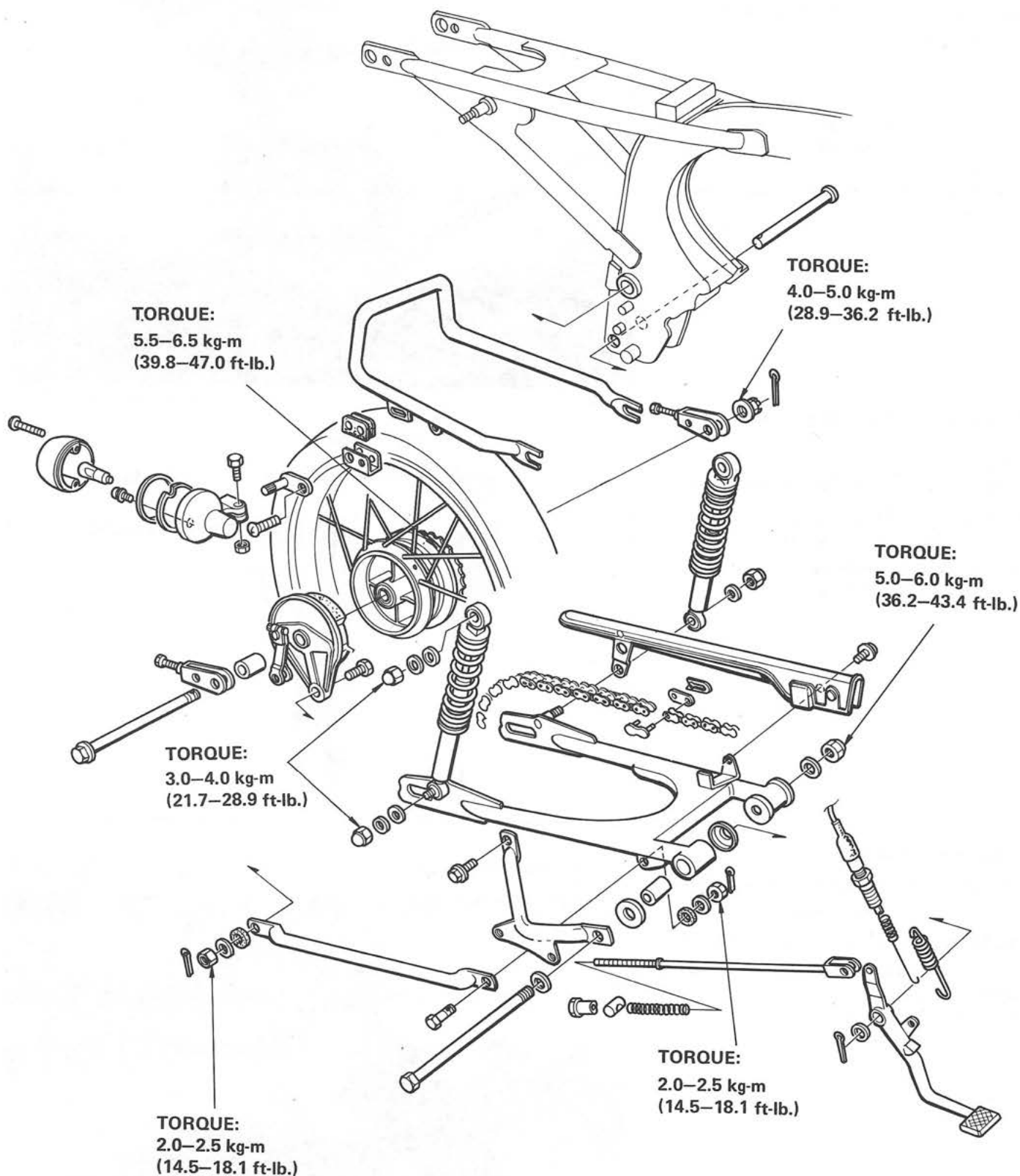
Tighten the top bridge bolts.

TORQUE: 2.0–2.5 kg-m (14.5–18.1 ft-lb.)

Install the headlight bracket, headlight and steering handlebar.

Install the front wheel.







SERVICE INFORMATION	12-1
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REAR BRAKE PANEL	12-8
REAR SHOCK ABSORBER	12-10
SWINGARM	12-12
REAR BRAKE PEDAL	12-13

SERVICE INFORMATION

• WORKING PRACTICE

This section describes removal, installation and repair of the rear shock absorbers, the swingarm and the rear brake. This vehicle does not have a center stand. Support the engine with a block or the frame body with a rigid rack securely, when removing the rear wheel.

• TOOLS

Special Tools

Rear shock absorber compressor	Tool No. 07959-3290001
Spring holder attachment	Tool No. 07967-1150100

Common Tools

Bearing driver (42x47)	Tool No. 07746-0010300
Driver handle A	Tool No. 07749-0010000
Pilot (15)	Tool No. 07746-0040300

• TORQUES

Axle nut:	4.0-5.0 kg-m (28.9-36.2 ft-lb.)
Swingarm pivot bolt:	5.0-6.0 kg-m (36.2-43.4 ft-lb.)
Rear brake torque link nut:	2.0-2.5 kg-m (14.5-18.1 ft-lb.)
Shock absorber nut:	3.0-4.0 kg-m (21.7-28.9 ft-lb.)
Driven sprocket nut:	5.5-6.5 kg-m (39.8-47.0 ft-lb.)
Brake cam bolt:	0.8-1.2 kg-m (5.8-8.6 ft-lb.)

• SERVICE DATA

ITEMS	STANDARD	SERVICE LIMIT
Axle bend	_____	0.2 mm (0.0079 in.)
Wheel rim runout	_____	2.0 mm (0.0787 in.)
	_____	2.0 mm (0.0787 in.)
Brake drum I.D.	130.0 mm (5.1181 in.)	131.0 mm (5.1575 in.)
Brake lining thickness	4.0 mm (0.1575 in.)	2.0 mm (0.0787 in.)
Rear shock absorber spring free length	184.1 mm (7.2480 in.)	175.6 mm (6.9133 in.)
Swingarm pivot bushing clearance	0.2-0.3 mm (0.0079-0.0118 in.)	0.5 mm (0.0197 in.)



TROUBLESHOOTING

Rattle In Rear Wheel

1. Bent rear wheel
2. Worn rear wheel bearing
3. Loose spokes
4. Faulty tire
5. Loose axle nut
6. Loose rear fork bolt
7. Swingarm bushing worn

Soft Rear Suspension

1. Broken rear spring(s)
2. Faulty rear shock(s)

Hard Rear Suspension

1. Faulty rear shock(s)

Suspension Noise

1. Incorrect torque an axle
2. Faulty rear shocks or springs
3. Broken spring(s)
4. Bent rear fork

Faulty Brake

1. Incorrect adjustment of pedal
2. Brake lining worn
3. Brake lining surface dirty
4. Brake cam worn
5. Incorrectly fitted brake arm serrations
6. Faulty brake wear indicator



REAR WHEEL

● REAR WHEEL REMOVAL

WARNING

Support the frame body with a safety stand.

Remove the rear brake adjusting nut and the brake rod from the brake arm.

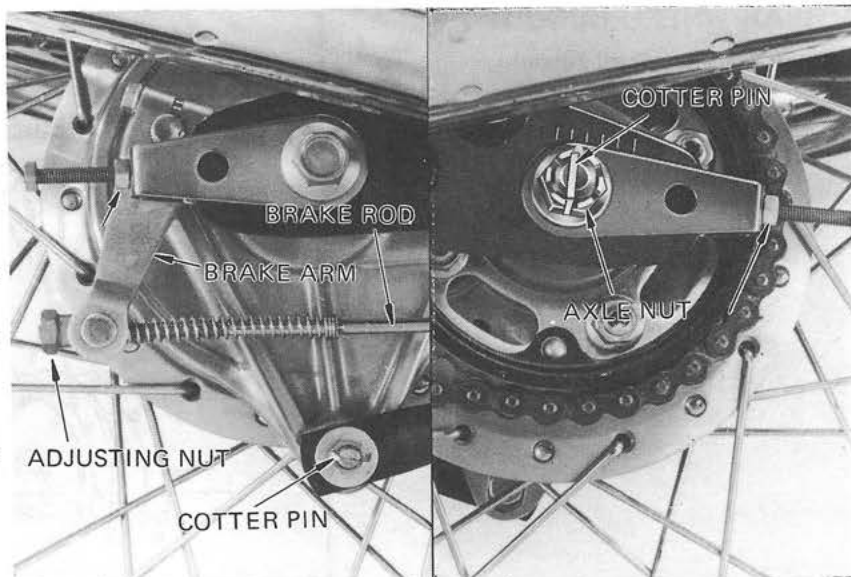
Remove the cotter pin and nut and remove the brake stopper arm.

Remove the cotter pin from the axle nut.

Remove the drive chain.

Remove the axle nut and pull the axle shaft out.

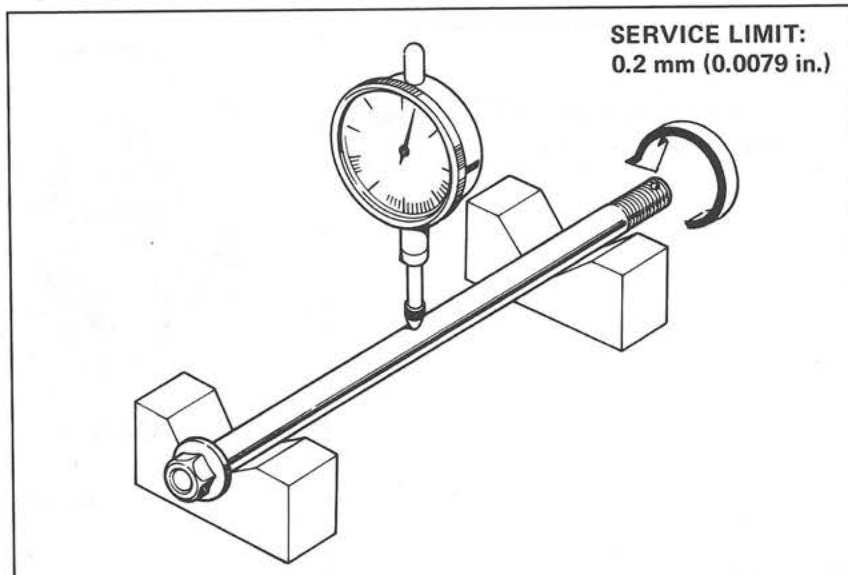
Remove the rear wheel.



● REAR AXLE RUNOUT

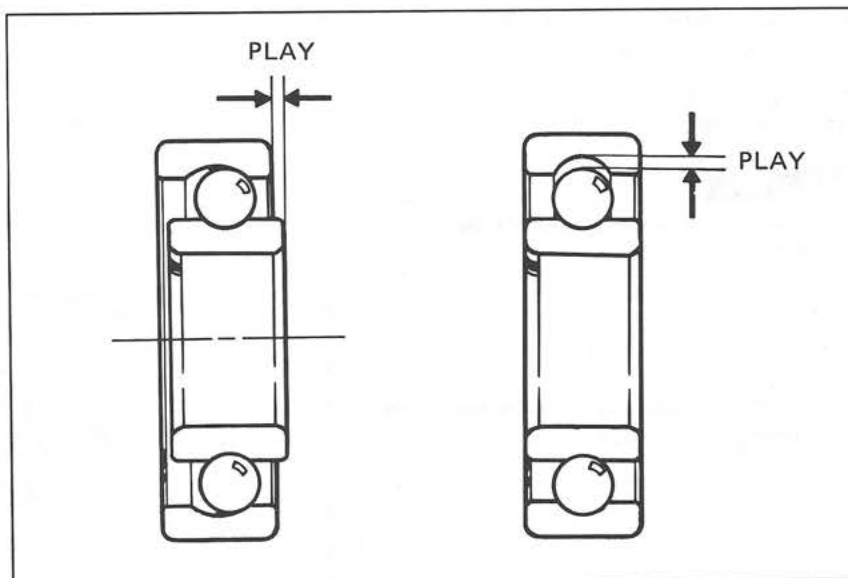
Set the axle in V blocks and measure the runout by rotating the axle.

Divide total indicator reading by 2 to determine actual runout.



● REAR WHEEL BEARING INSPECTION

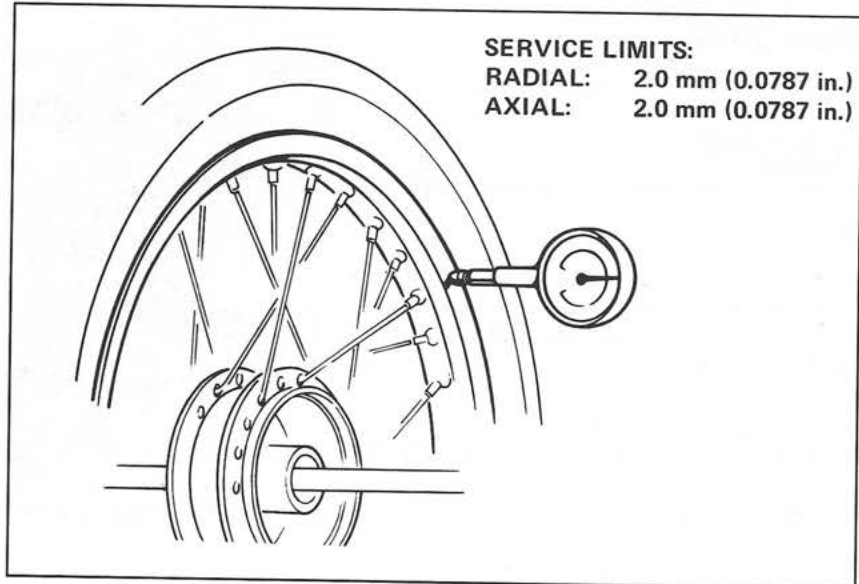
Turn the rear wheel by hand to check for condition. Replace the bearing if it is noisy or has excessive play.





● REAR WHEEL RUNOUT

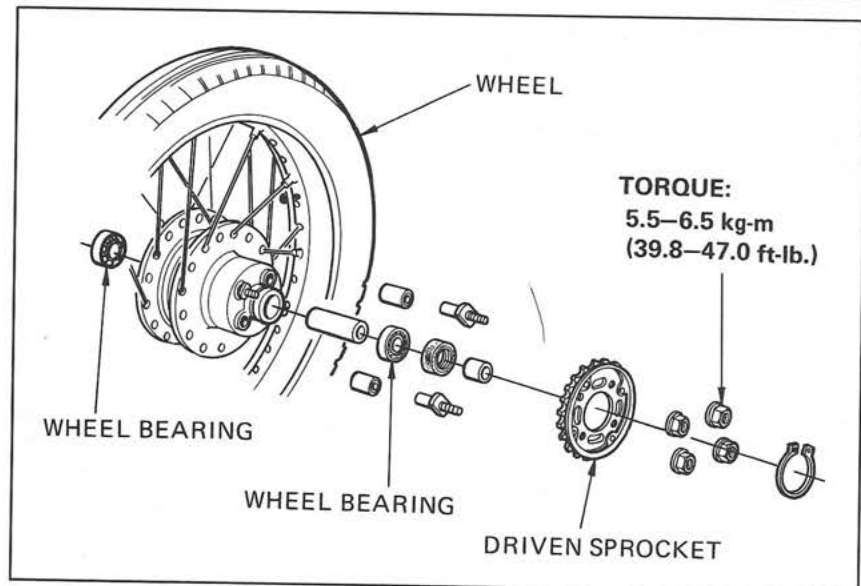
Measure the rear wheel runout.



● REAR WHEEL DISASSEMBLY

NOTE

If the bearings are removed they should be replaced with new ones.



● REAR WHEEL BEARING INSTALLATION

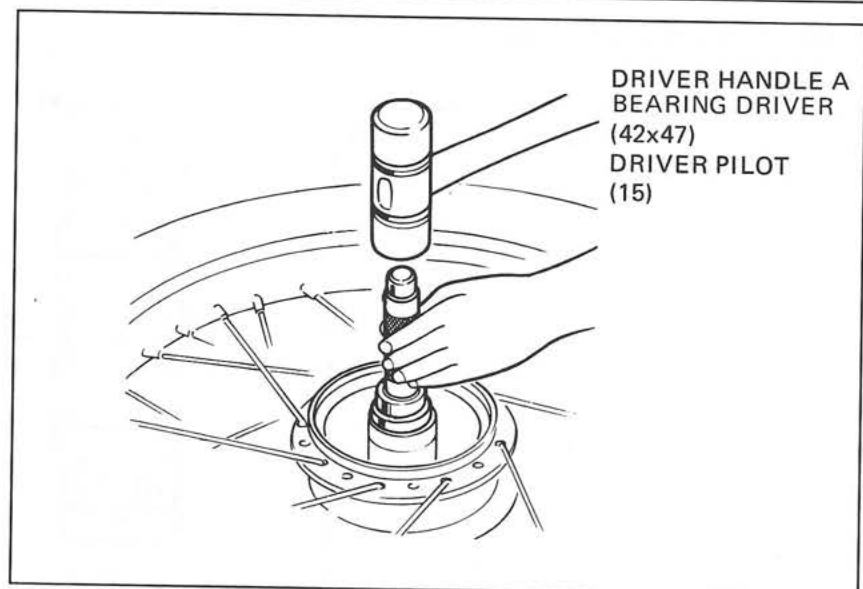
Apply grease to the bearing.
 Install the right bearing first.

WARNING

Be careful to keep grease off the brake drum.

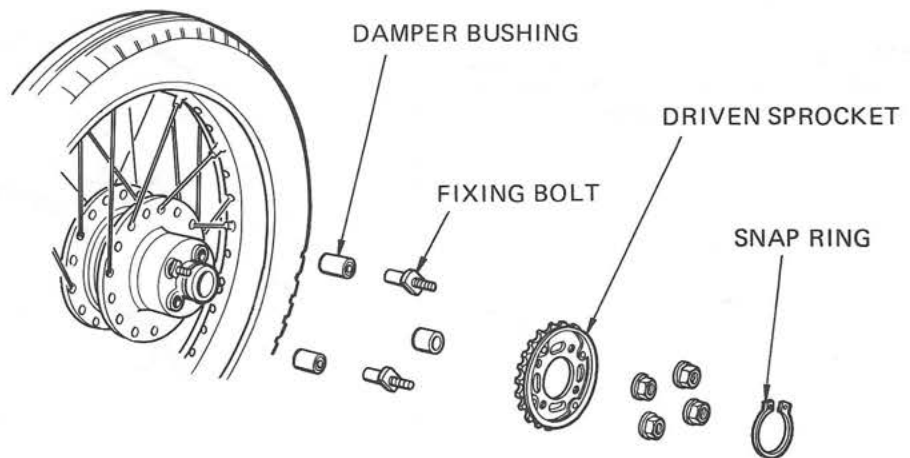
NOTE

- Drive the bearing squarely, not allowing it to tilt.
- Install the bearing with the sealed end facing the outside.



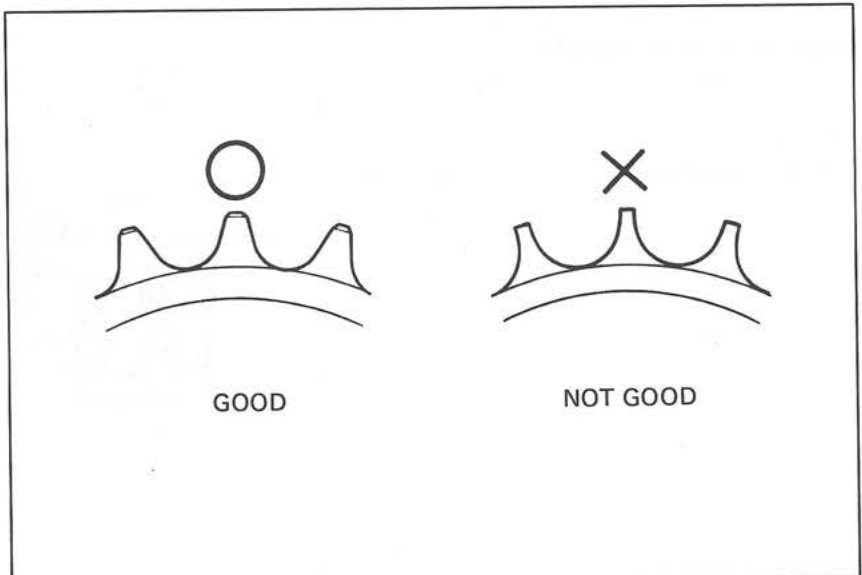


● **REAR SPROCKET DISASSEMBLY**



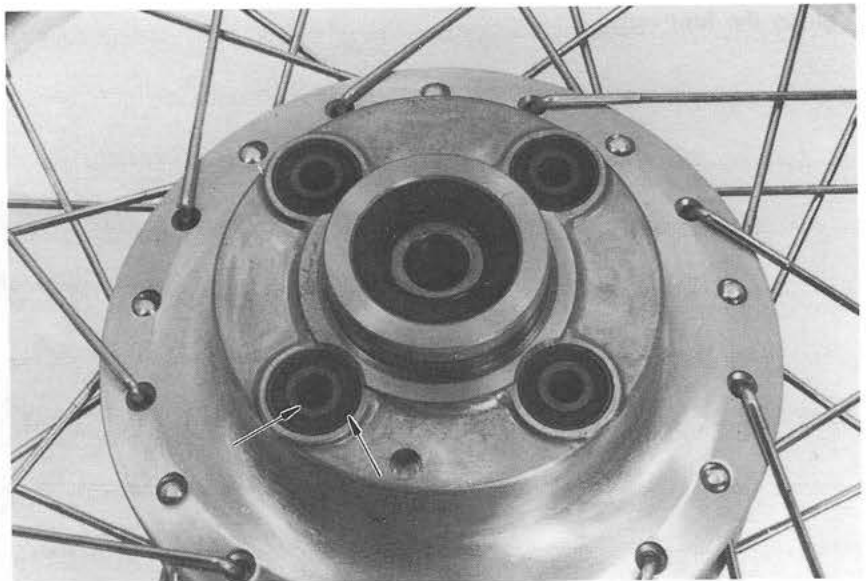
● **FINAL DRIVEN SPROCKET WEAR**

Inspect the drive chain and the sprocket before installing.
Replace the drive chain and sprocket if they show excessive wear or damage.



● **DAMPER BUSHING INSPECTION**

Inspect the damper bushing for wear or damage.



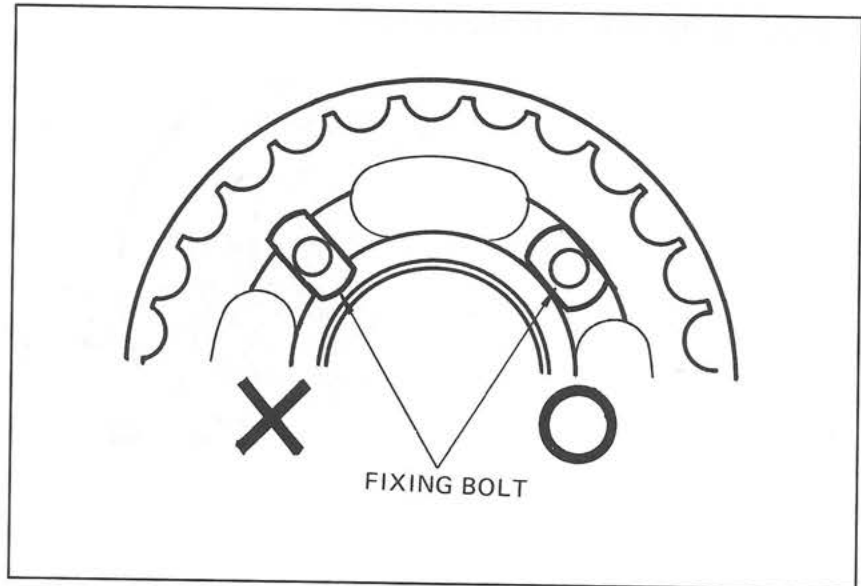


● REAR SPROCKET ASSEMBLY

Install the fixing bolts.

NOTE

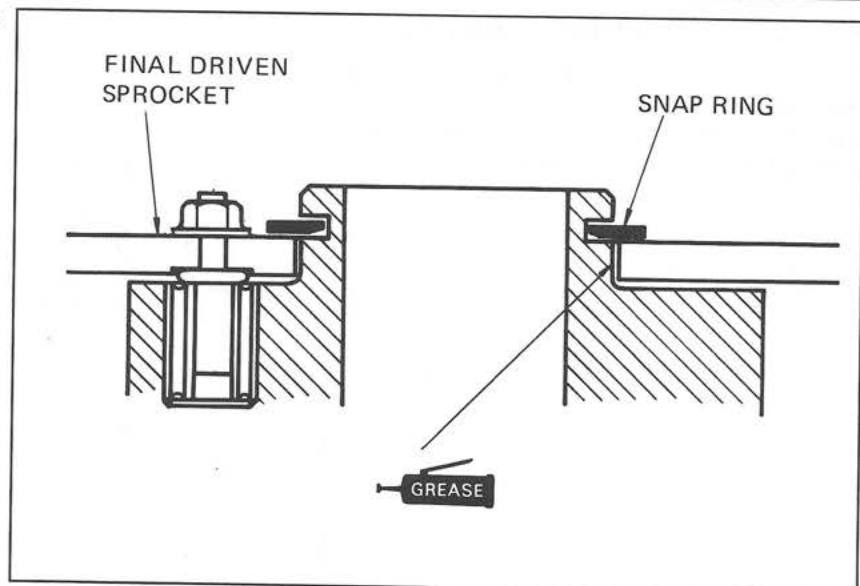
Be sure the fixing bolts are seated in the sprocket groove properly.



Grease the left side of rear wheel hub and inside of the driven sprocket.
Install the sprocket and snap ring.

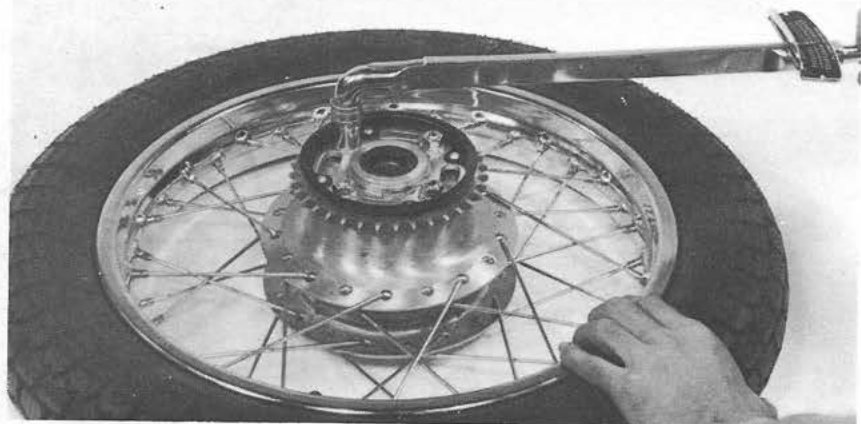
NOTE

Install with the cutout of the snap ring facing the sprocket.



Tighten the four nuts.

TORQUE: 5.5–6.5 kg-m
(39.8–47.0 ft-lb.)

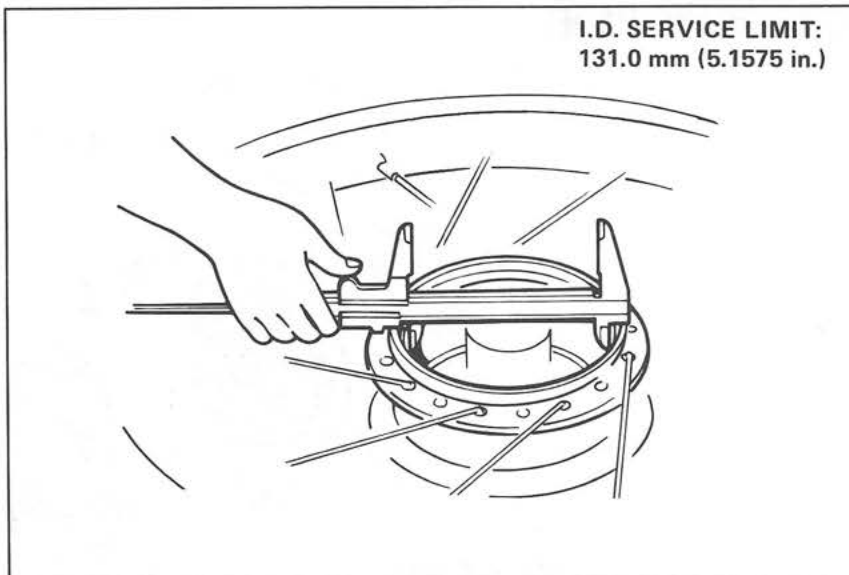




• **BRAKE DRUM I.D.**

Measure I.D. of the brake drum.

I.D. SERVICE LIMIT:
131.0 mm (5.1575 in.)



• **REAR WHEEL INSTALLATION**

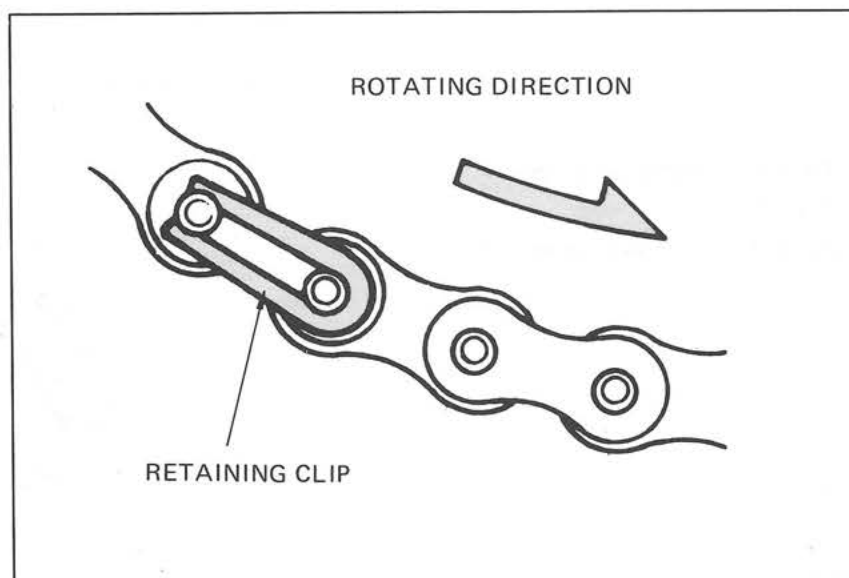
Install the rear wheel and the axle shaft.
Install the drive chain on the drive and driven sprockets.

Install the master link and retaining clip.

NOTE

Note the direction of the retaining clip.

Install the brake rod and brake stopper arm.
Adjust the drive chain. (See page 3-10.)



NOTE

Align the index marks of the adjusters with the same side scales on the swing-arm.

Tighten the axle nut.

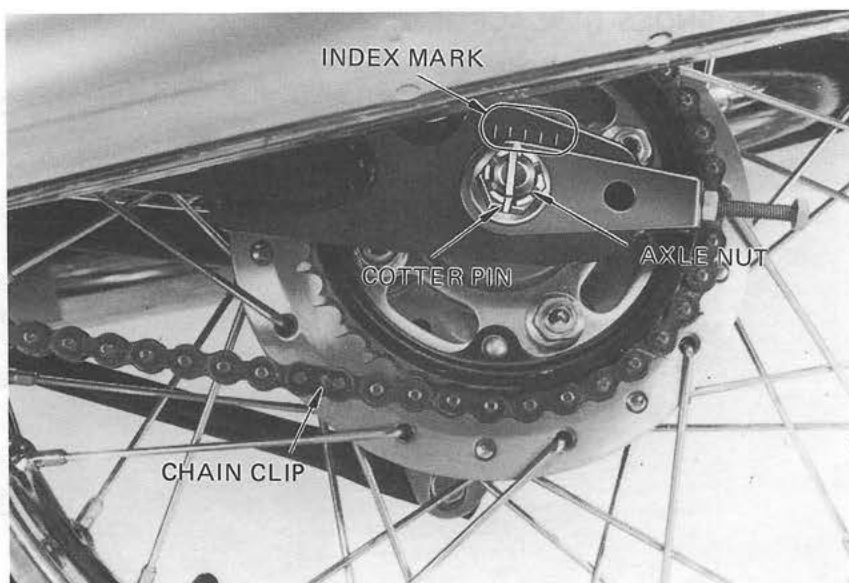
TORQUE: 4.0–5.0 kg-m (28.9–36.2 ft-lb.)

Install a new cotter pin into the axle nut and stopper arm nut and spread the ends.

NOTE

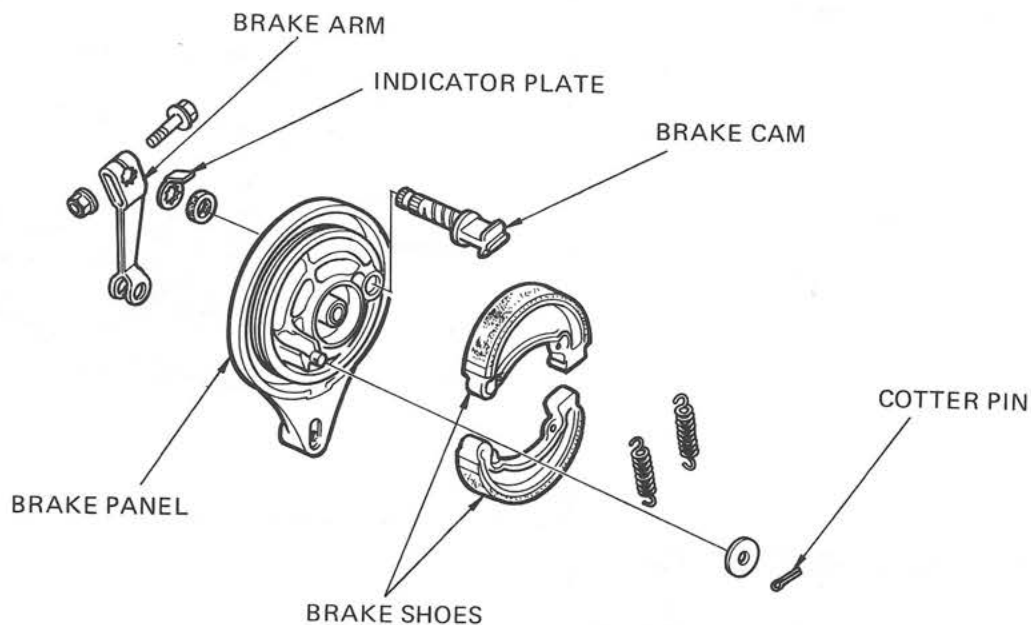
Lubricate drive chain if necessary.

Adjust the rear brake. (See page 3-13.)





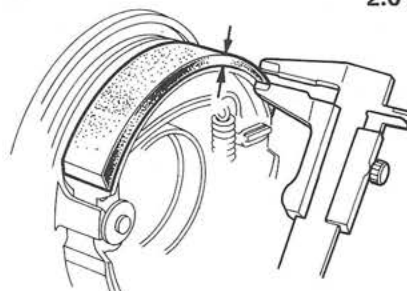
REAR BRAKE PANEL



• REAR BRAKE LINING THICKNESS

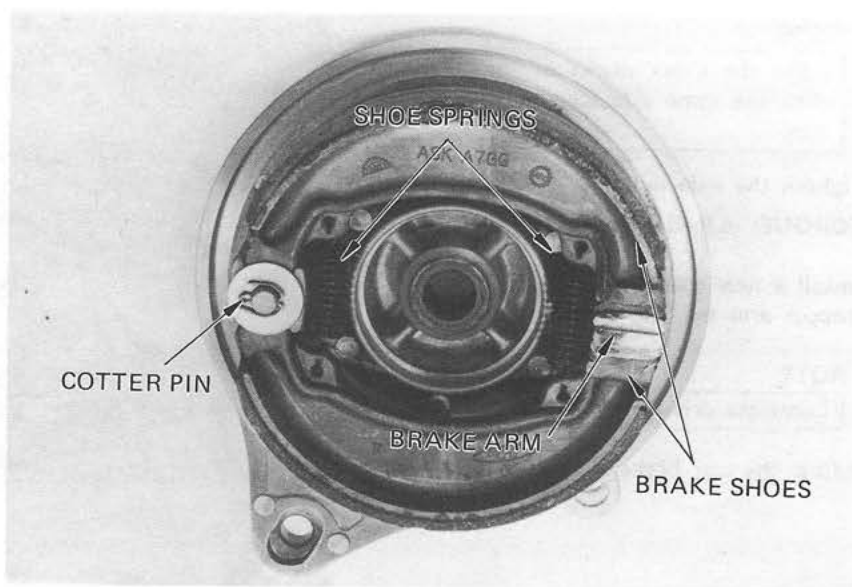
Measure the rear brake lining thickness.

SERVICE LIMIT:
2.0 mm (0.0787 in.)



• BRAKE SHOES REPLACEMENT

Pry off the cotter pin and remove the washer.
Remove the brake shoe springs.
Replace the brake shoes.

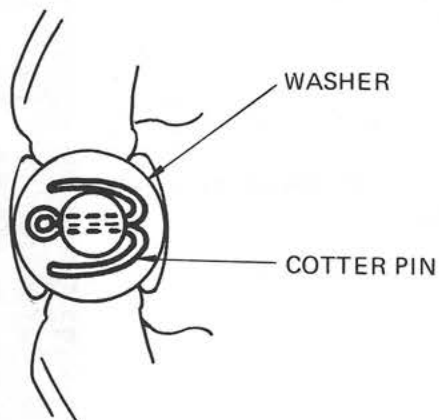




Apply grease on the sliding face of the brake cam and install it.
Install the brake shoe return springs on to the brake shoes.
Install the washer and cotter pin.

NOTE

Install and spread the ends of the cotter pin as shown.



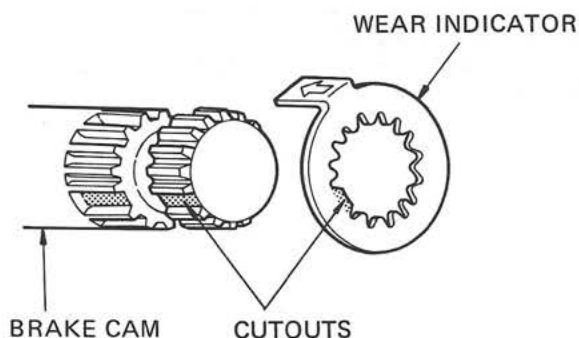
WARNING

Do not get grease on the brake linings.

Install the indicator plate onto the brake cam.

NOTE

Align the cutouts of brake cam and indicator plate.

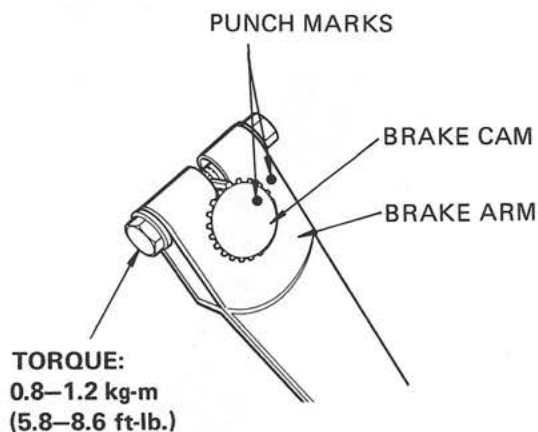


Install the brake arm on the brake cam.

NOTE

Align the punches marks of brake cam and the arm.

Tighten the brake cam bolt and nut.





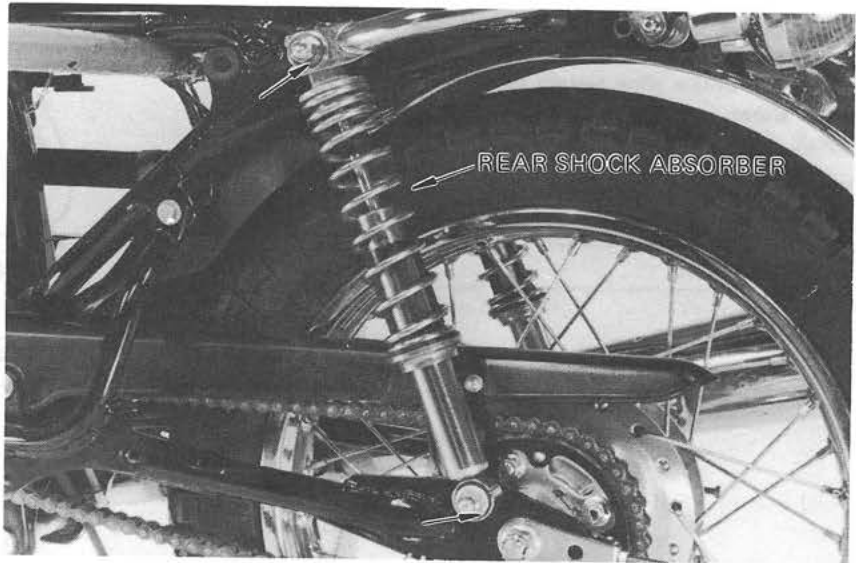
REAR SHOCK ABSORBER

• REAR SHOCK ABSORBER REMOVAL

NOTE

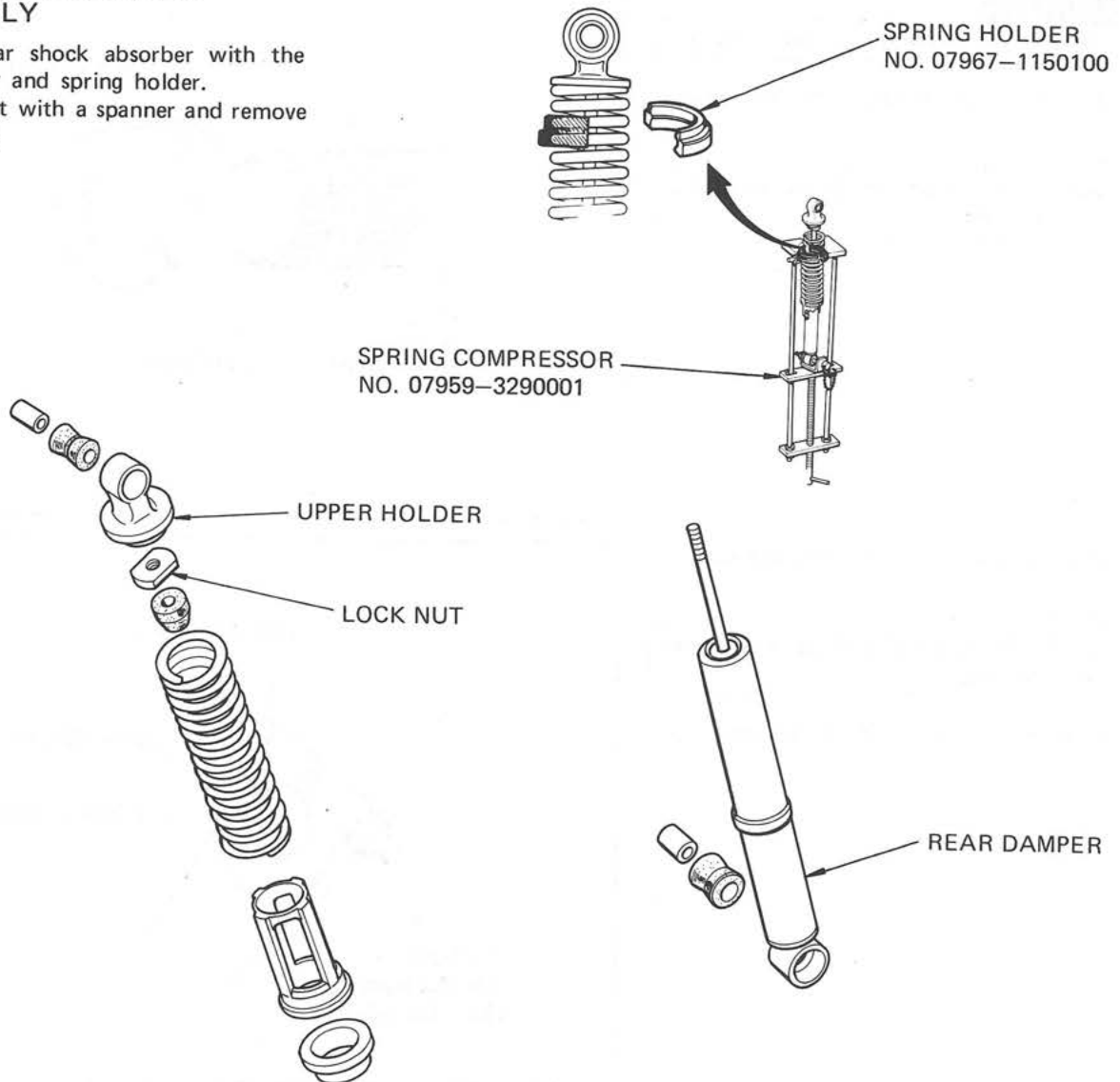
Place the frame body on a rigid rack.

Remove the rear shock absorber by unscrewing the upper and lower bolts.



• REAR SHOCK ABSORBER DISASSEMBLY

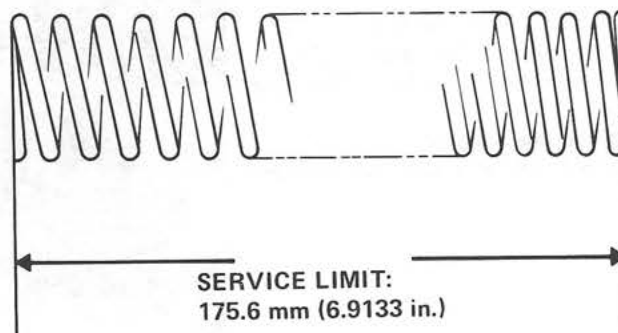
Compress the rear shock absorber with the spring compressor and spring holder. Hold the lock nut with a spanner and remove the upper holder.





- **SHOCK ABSORBER SPRING FREE LENGTH**

Measure the spring free length.



- **SHOCK ABSORBER ASSEMBLY**

The assembly sequence is essentially the reverse of disassembly.

NOTE

Apply locking agent to the lock nut at time of assembly.

HOLDER ATTACHMENT
NO. 07967-1150100

REAR SHOCK COMPRESSOR
NO. 07959-3290001

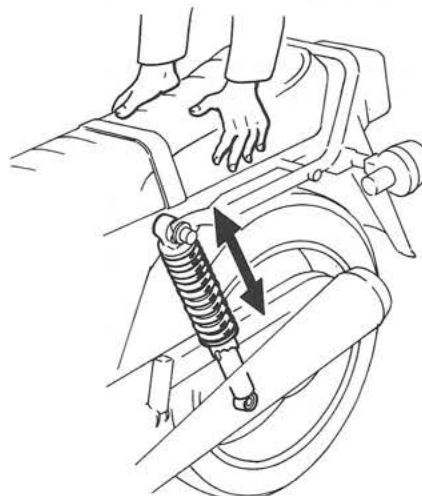


- **SHOCK ABSORBER INSTALLATION**

Install the rear shock absorbers with the upper and lower bolts.

TORQUE: 3.0–4.0 kg-m (21.7–28.9 ft-lb.)

Check the operation after installing the rear shock absorbers.





SWINGARM

● SWINGARM REMOVAL

Remove the left and right mufflers.

Remove the rear wheel. (See page 12-3.)

Remove the rear shock absorbers. (See page 12-10.)

Remove the drive chain cover.

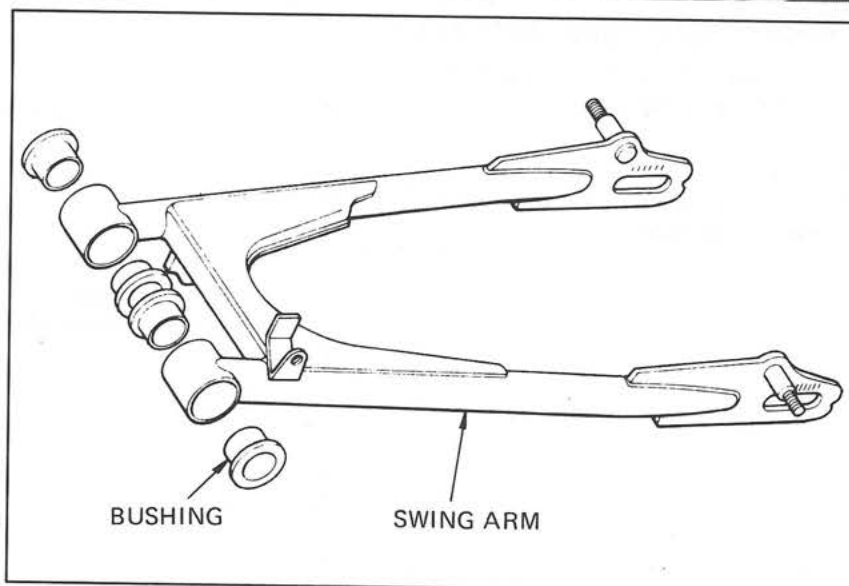
Remove the pivot bolt and pull the swingarm out.



● SWINGARM DISASSEMBLY/ASSEMBLY

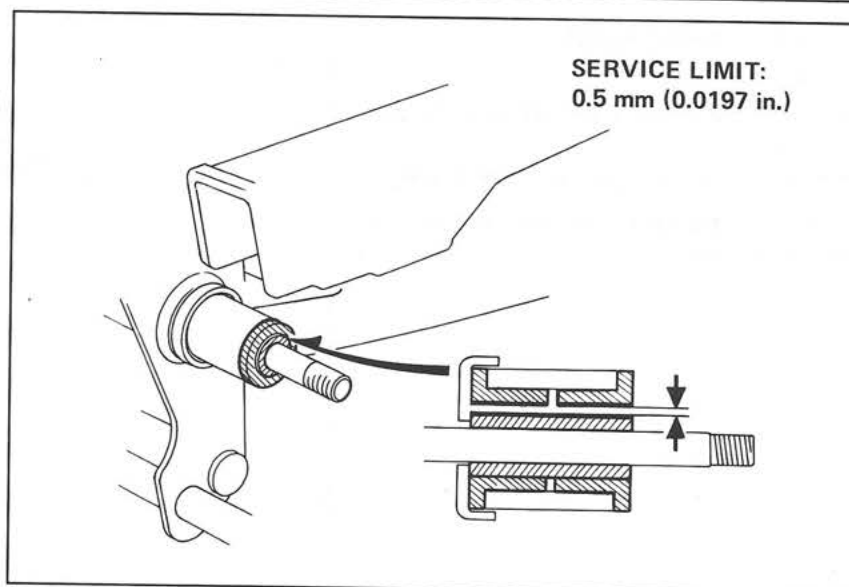
NOTE

Drive the bushings into place with a soft mallet, or use a block to avoid damaging it.



● SWINGARM BUSHING INSPECTION

Measure the O.D. of collars and I.D. of bushing and inspect the pivot-to-bushing clearance.





● **SWINGARM INSTALLATION**

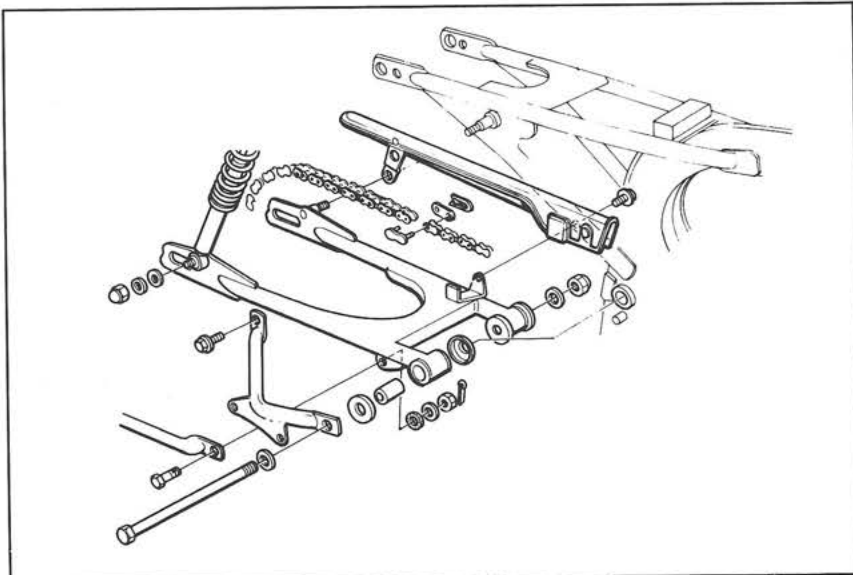
Install the rear fork and tighten the pivot bolt.

TORQUE: 5.0—6.0 kg-m (36.2—43.4 ft-lb.)

Install the drive chain cover and the rear wheel.
(See page 12-7.)

Install the shock absorbers.

Install the left and right mufflers.



REAR BRAKE PEDAL

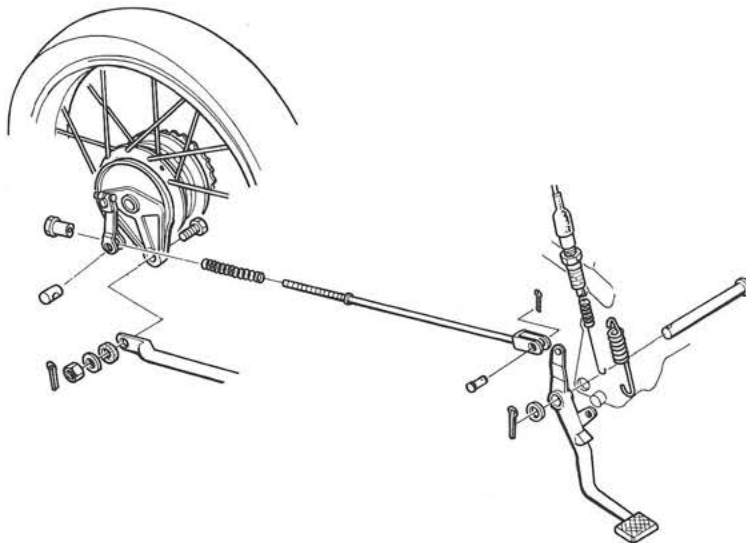
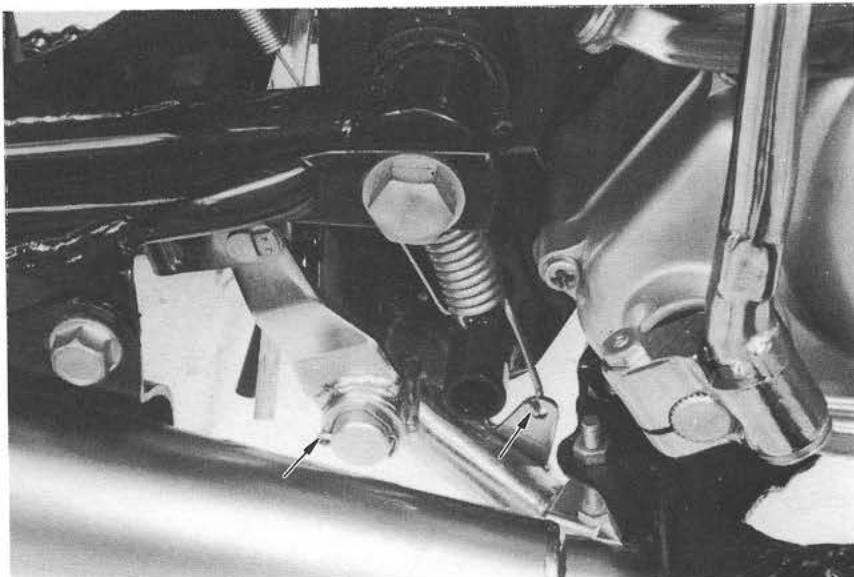
● **BRAKE PEDAL REMOVAL**

Disconnect the brake rod and remove the stoplight switch spring. Remove the cotter pin and washer, and remove the brake pedal.

NOTE

Note the location of the stoplight switch spring.

After installing the brake pedal, adjust the free play. (See page 3-13.)





HONDA
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13. FUEL TANK / AIR CLEANER / REAR FENDER / CRANKCASE BREATHER

FUEL TANK

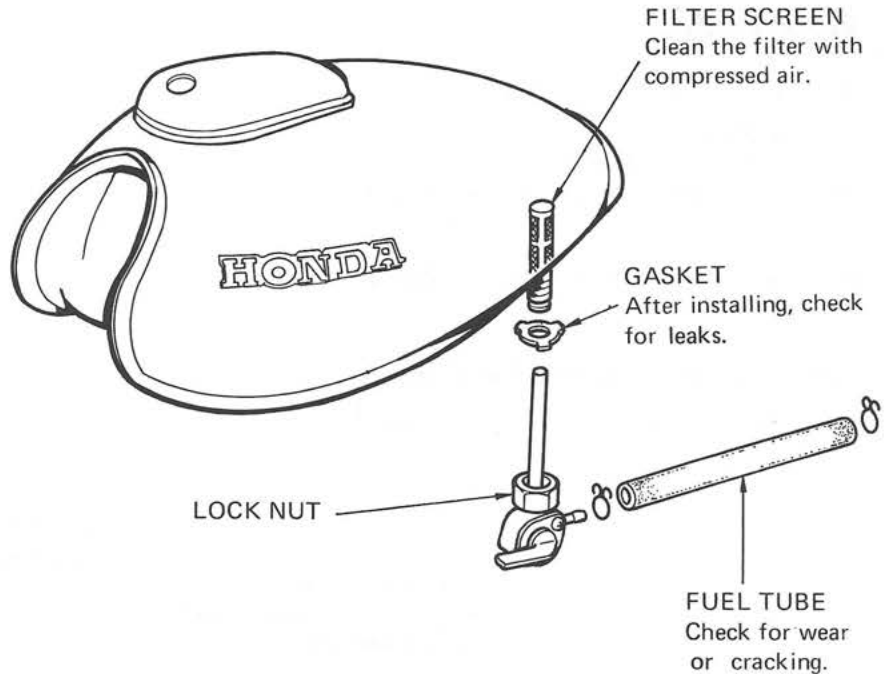
WARNING

*Gasoline is flammable.
Keep sparks and flame away during fuel
valve assembly.*

Remove the seat.
Turn the fuel valve "OFF" and disconnect the
fuel tube.
Remove the fuel tank.

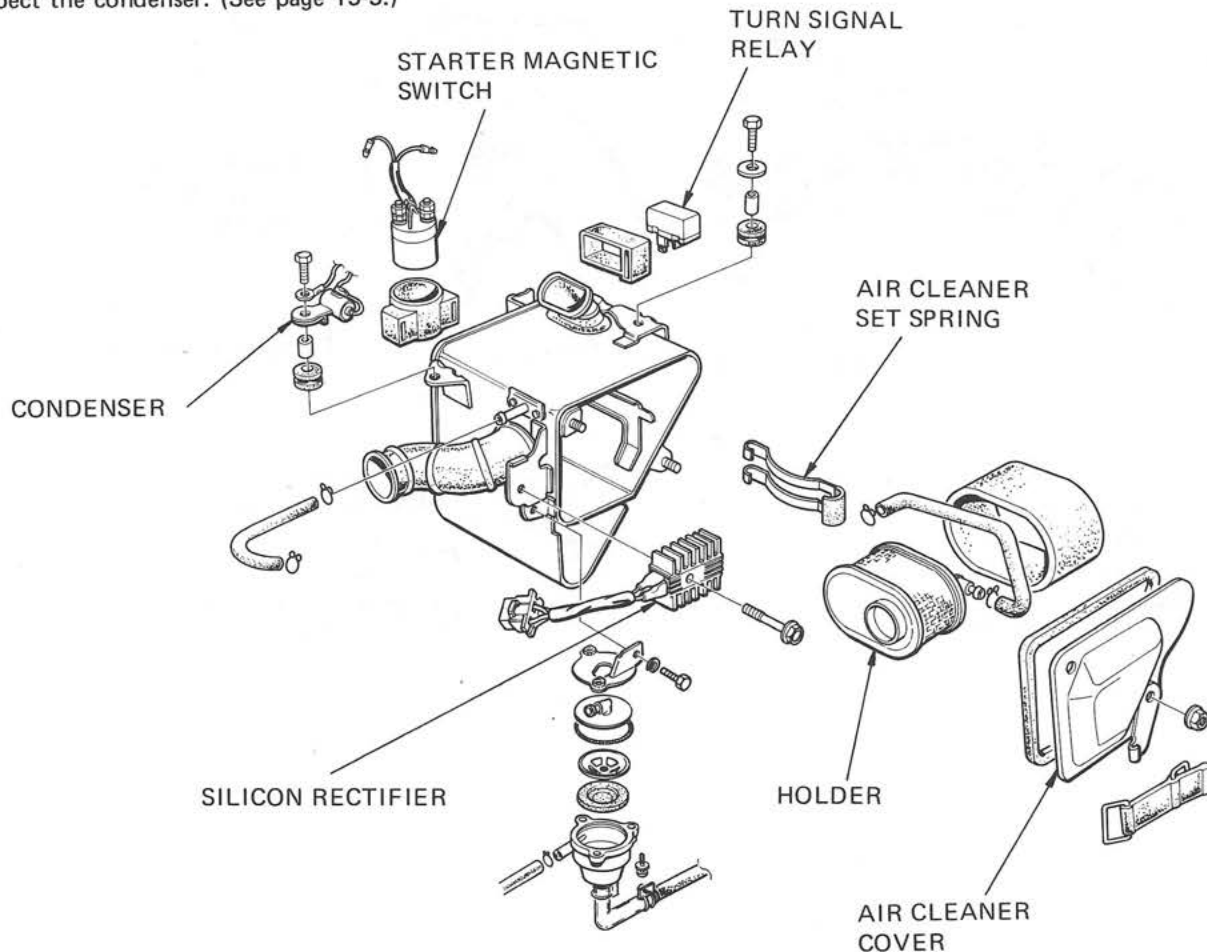
NOTE

Do not overtighten the lock nut on the
fuel valve.



AIR CLEANER

Remove the seat.
Cleaning the air cleaner element. (See page 3-2.)
Inspect the starter magnetic switch. (See page
16-6.)
Inspect the condenser. (See page 15-5.)





REAR FENDER

● REAR FENDER REMOVAL

Remove the seat.

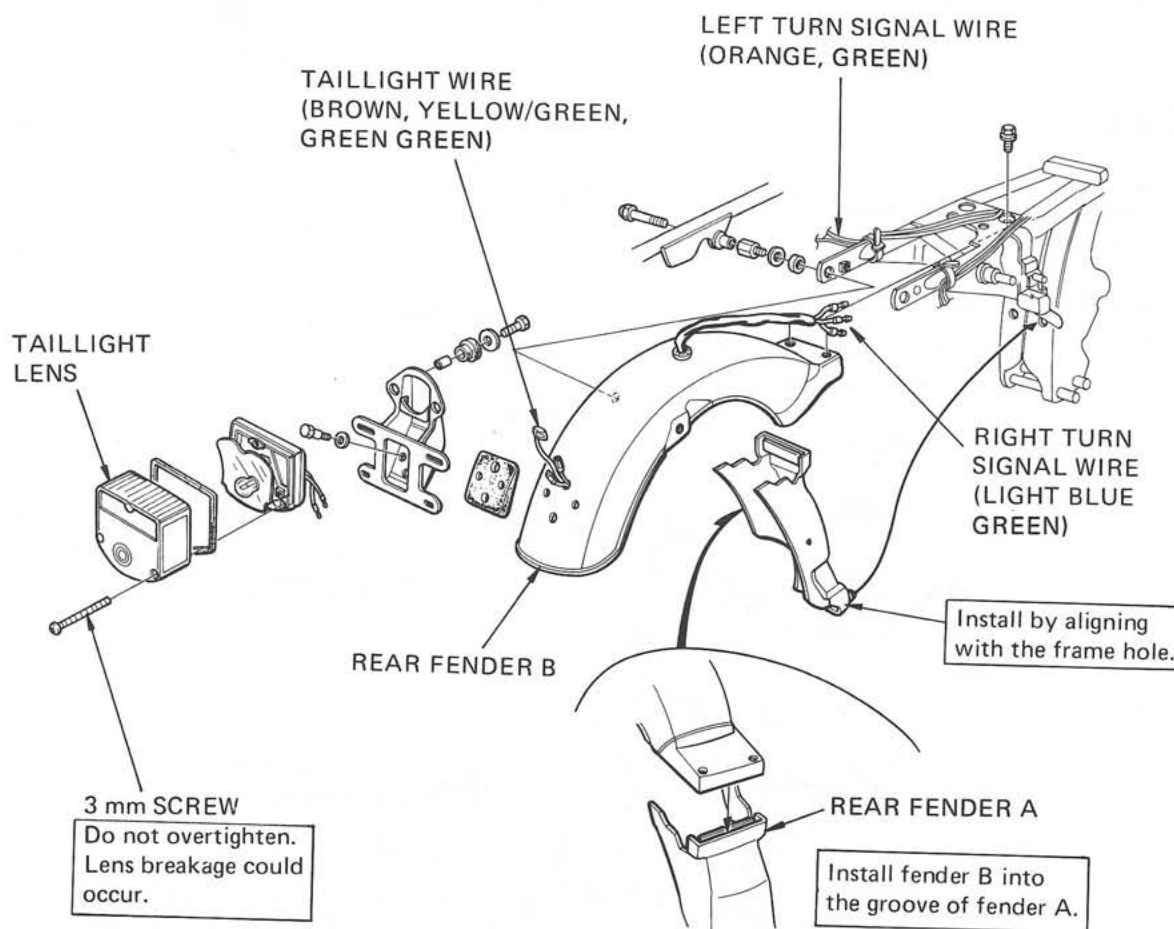
Remove the rear fender.

Separate the rear fender A and fender B.

● REAR FENDER INSTALLATION

NOTE

Install fender B into the groove of fender A.



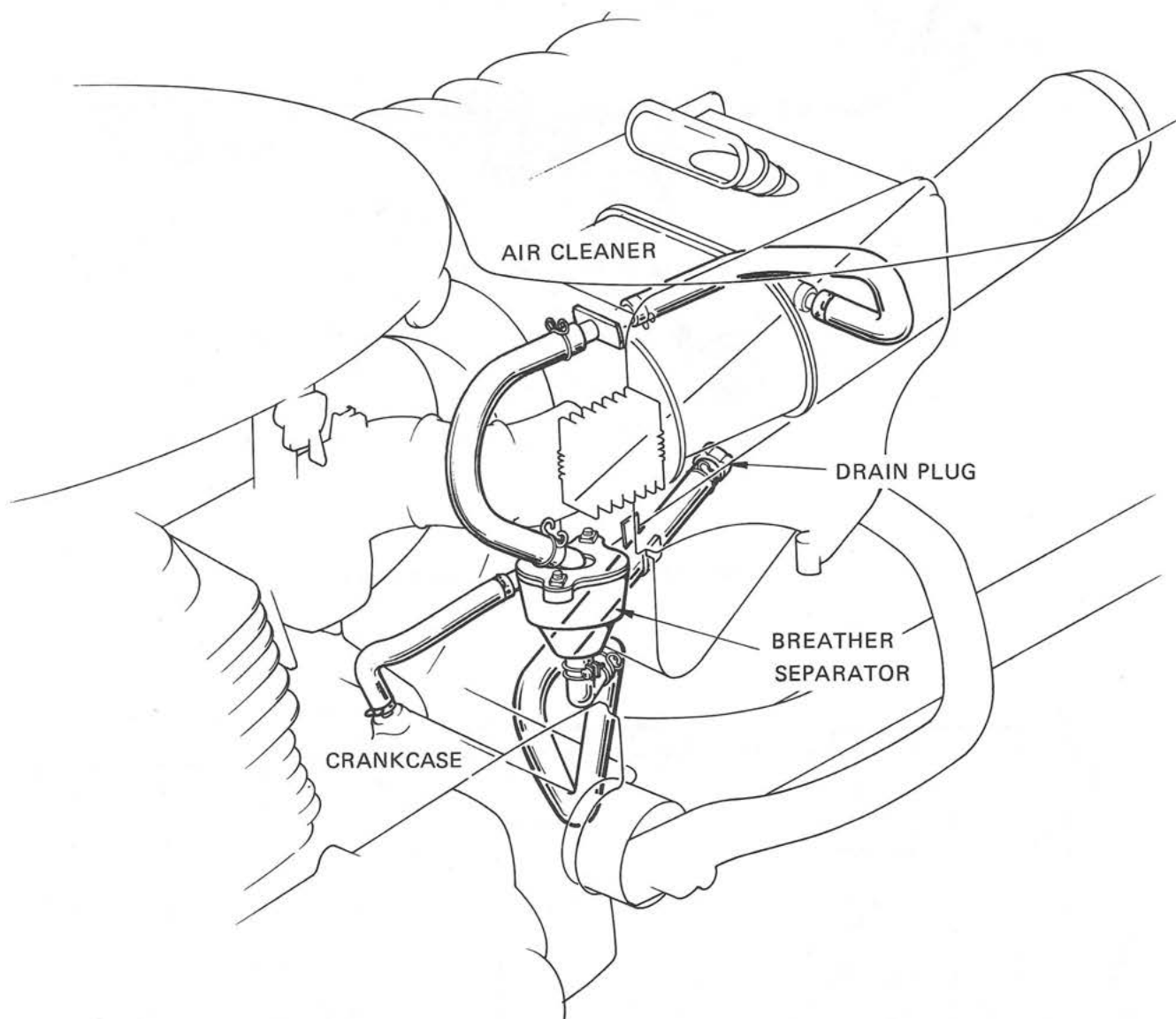


HONDA
CM185T

FUEL TANK/AIR CLEANER/
REAR FENDER/CRANKCASE BREATHER

CRANKCASE BREATHER (USA only)

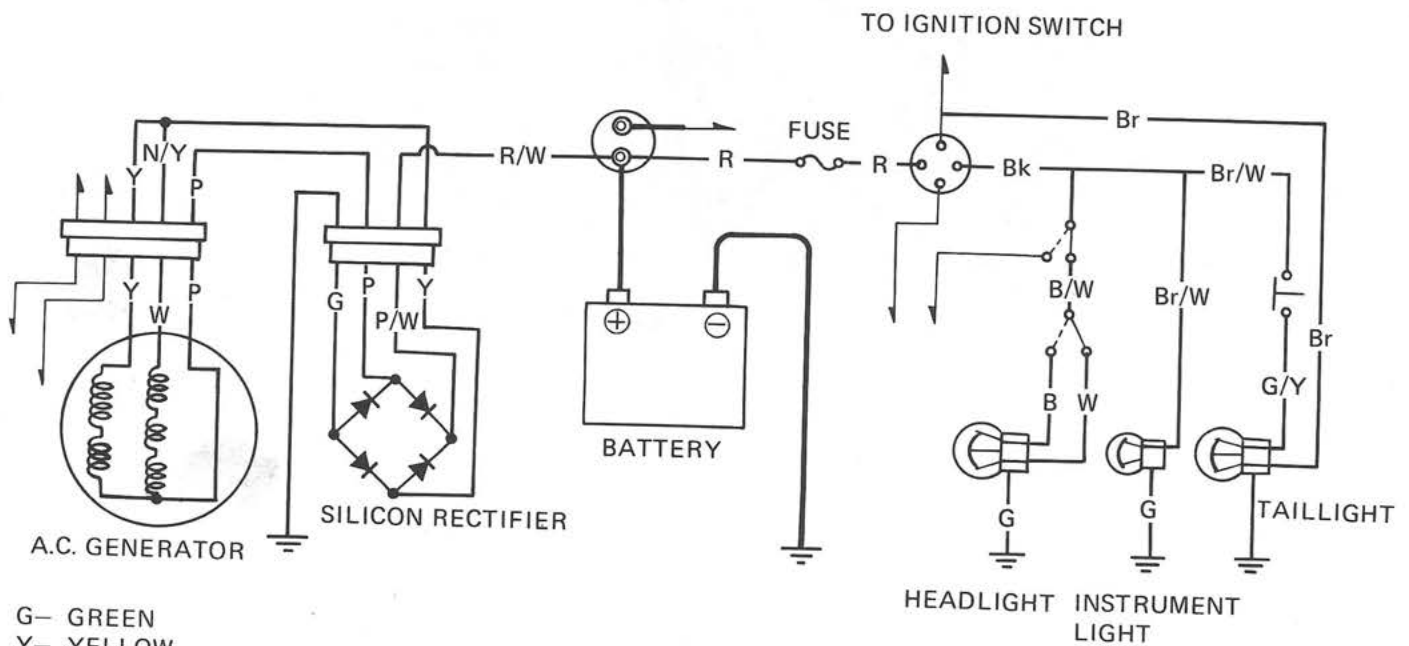
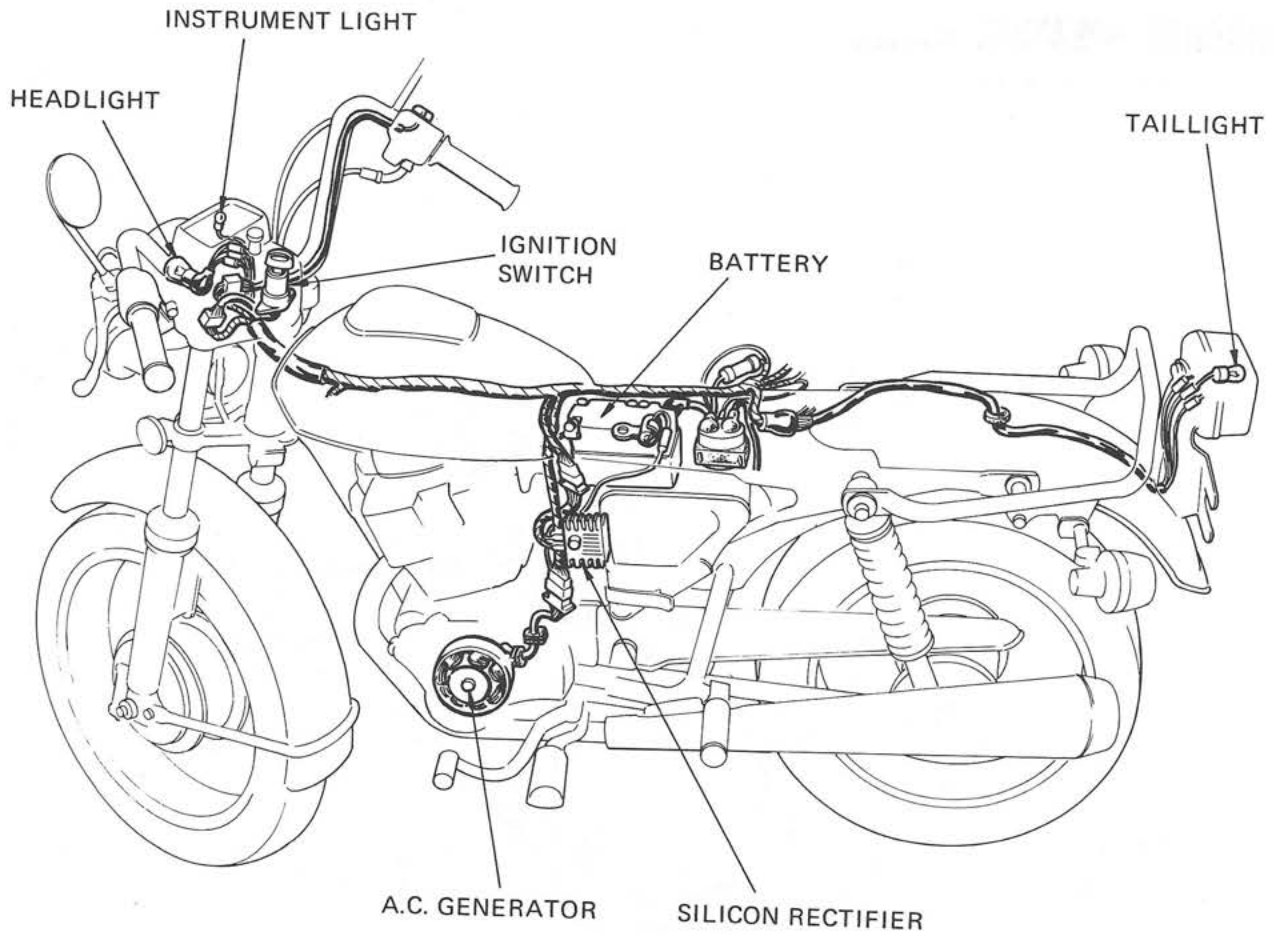
Rout the breather tubes as shown.



BATTERY/CHARGING SYSTEM



HONDA
CM185T



G- GREEN
Y- YELLOW
W- WHITE
P- PINK
R- RED
Br- BROWN
B- BLUE



SERVICE INFORMATION	14-1
TROUBLESHOOTING	14-2
BATTERY	14-3
CHARGING SYSTEM	14-4

SERVICE INFORMATION

● WORKING PRACTICE

This section describes the electric parts service. For A.C. generator removal, refers to section 9.

Battery acid level should be checked regularly and filled with distilled water when necessary.

When charging the battery, quick-charging should only be done in an emergency; slow-charging is preferred.

Remove the battery from the motorcycle for charging whenever possible. If battery must be charged on the motorcycle, disconnect the battery cables.

Keep fire or sparks away from a charging battery because it produces hydrogen.

All charging system components can be tested on the motorcycle.

● SPECIFICATIONS

Battery

Capacity:	6V — 12 ampere-hours
Specific gravity (normal charge):	1.260—1.280 20°C (68°F)
Charging rate:	1.2 ampere maximum

Generator:

A.C. Generator
0.08 kw/5,000 rpm
Starts 2,200 rpm
5,000 rpm 3.3A 7.0V (at battery)
10,000 rpm 6.0A 8.3V (at battery)

Charging:

Rectifier:

Silicon diode

Fuse:

20A



TROUBLESHOOTING

No Power — Key Turned On

1. Dead battery
 - a. Battery electrolyte evaporated
 - b. Ignition switch left on
 - c. Charging system failure
2. Disconnected battery cable
3. Main fuse burned out
4. Faulty ignition switch

Low Power — Key Turned On

1. Weak battery
 - a. Low battery electrolyte level
 - b. Ignition switch left on
 - c. Charging system failure
2. Loose connection

Low Power — Engine Running

1. Weak battery
 - a. Low battery electrolyte level
 - b. One or more dead cells
2. Charging system failure

Intermittent Power

1. Loose battery connection
2. Loose charging system connection
3. Loose starting system connection
4. Loose connection or short circuit in ignition system
5. Loose connection or short circuit in lighting system

Charging System Failure

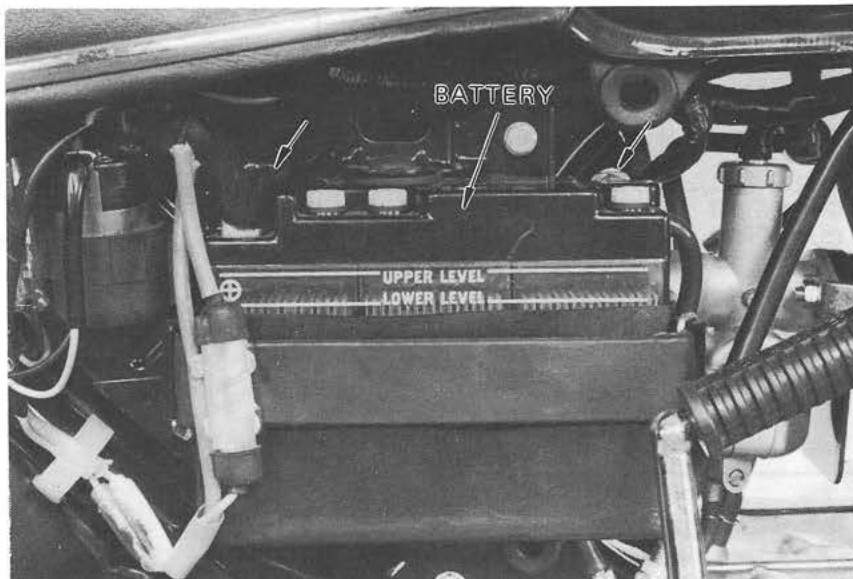
1. Loose, broken, or shorted wire or connection
2. Faulty voltage regulator
3. Faulty silicon rectifier
4. Faulty AC generator



BATTERY

• BATTERY REMOVAL

Disconnect the negative cable.
Remove the strap.
Disconnect the positive cable.
Remove the battery case with in battery.

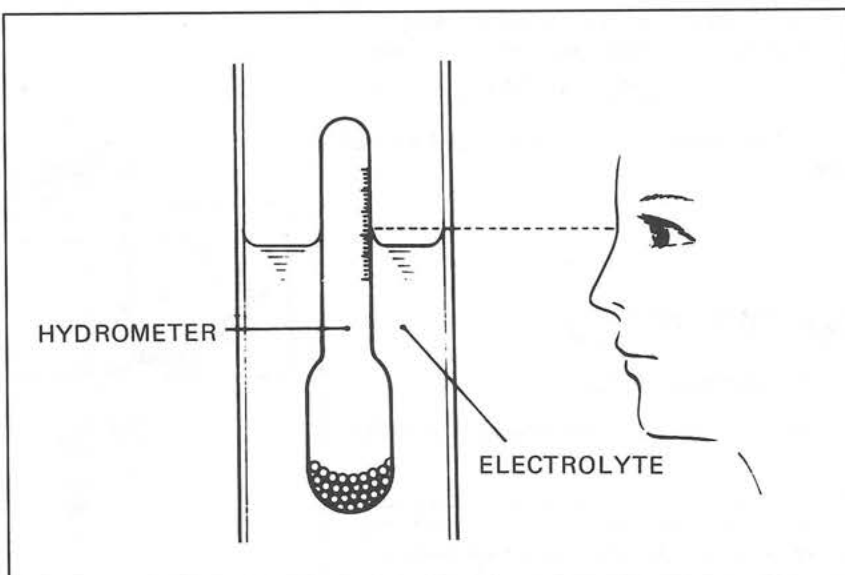


• TESTING SPECIFIC GRAVITY

The specific gravity of the battery must be checked with a hydrometer.

FULLY CHARGED: 1.260–1.280

Charging is required for specific gravities below 1.220. (20°C/68°F).



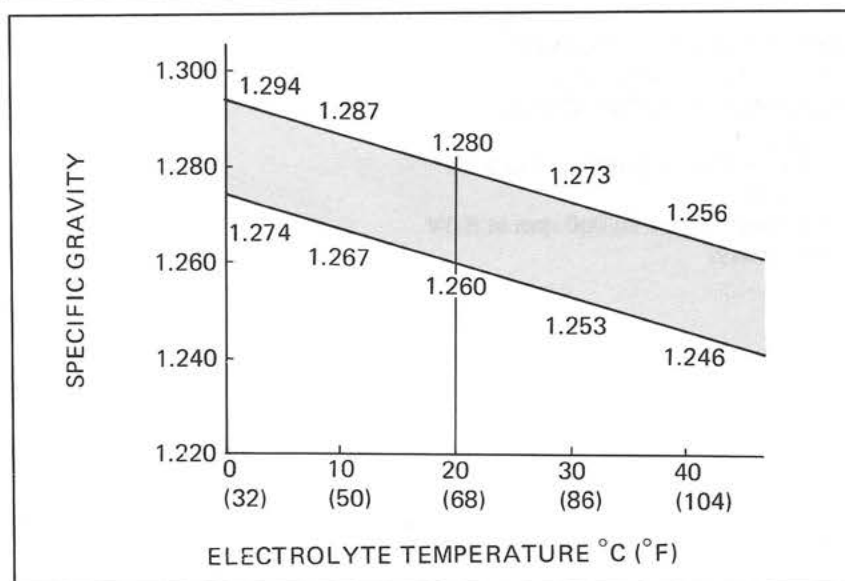
WARNING

The battery contains sulfuric acid. Avoid contact with skin, eyes, or clothing. Antidote: EXTERNAL-Flush with water. INTERNAL-Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call physician immediately. Eyes: Flush with water and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

NOTE

Replace the battery if sulfation is evident on the cells, or if pastes have settled in the bottom.





• CHARGING

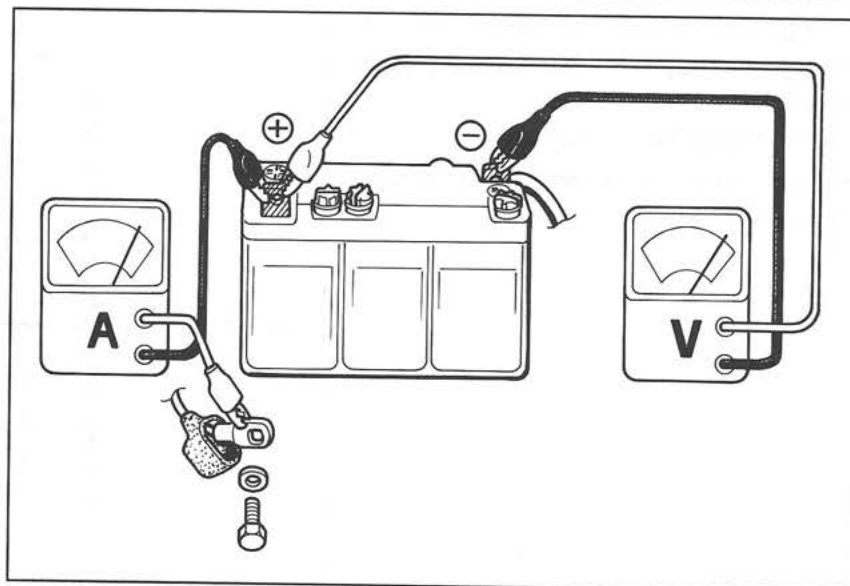
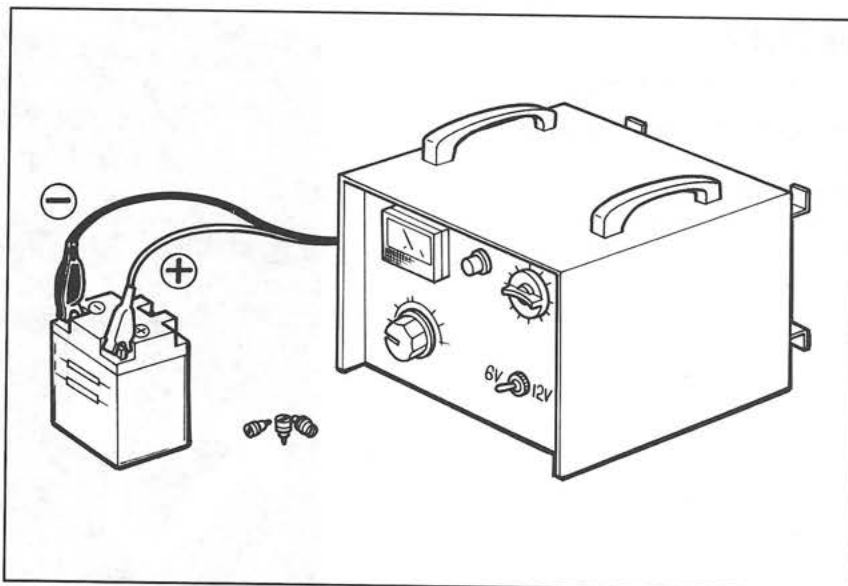
CONNECTION	CHARGER (+) TO BATTERY (+) CHARGER (-) TO BATTERY (-)
CHARGING CURRENT	1.2 AMPS
CHARGING	CHARGE UNTIL THE SPECIFIC GRAVITY REACHES 1.260 to 1.280 (20°C/68°F). NEAR THE CHARGING PERIOD, AIR BUBBLES MAY APPEAR ON THE INSIDE.

WARNING

Keep sparks and open flames away when charging battery.

Avoid rapid charging. If rapid charging must be performed, use care to prevent a temperature rise above 45°C. (113°F)

After installation, apply grease on the terminals.



CHARGING SYSTEM

• CHARGING TEST

Perform the test after warming up the engine.

NOTE

Gradually raise the rpm while watching the voltage. Do not raise the voltage rapidly.

BATTERY SPECIFIC GRAVITY:

1.260–1.280 (20°C/68°F)

CHARGING STARTING SPEED:

2,200 rpm

3.3 Amp Min. at 5,000 rpm at 7.0V
(of battery)

6.0 Amp Max. at 10,000 rpm at 8.3V
(of battery)



● STATOR COIL INSPECTION CONTINUITY TEST

NOTE

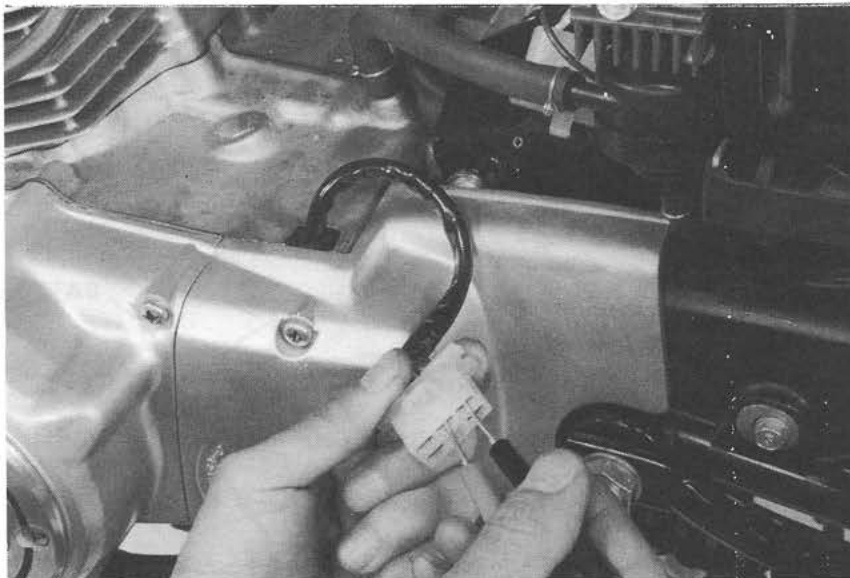
It is not necessary to remove the stator to make this test.

Continuity test:

There should be continuity between the three lead wires: pink-white, white-yellow, and yellow-pink of the stator coil.

Insulation test:

There may be no continuity between white, yellow, or pink wire and ground.

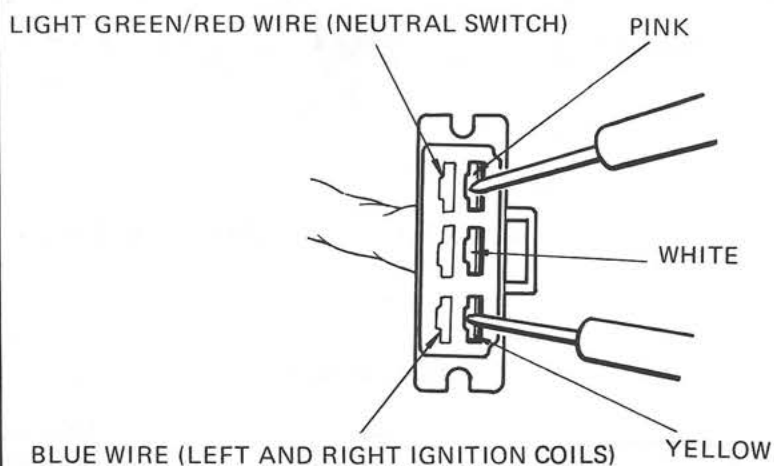


● RECTIFIER INSPECTION

Check continuity through the rectifier with a volt-ohmmeter or continuity tester.

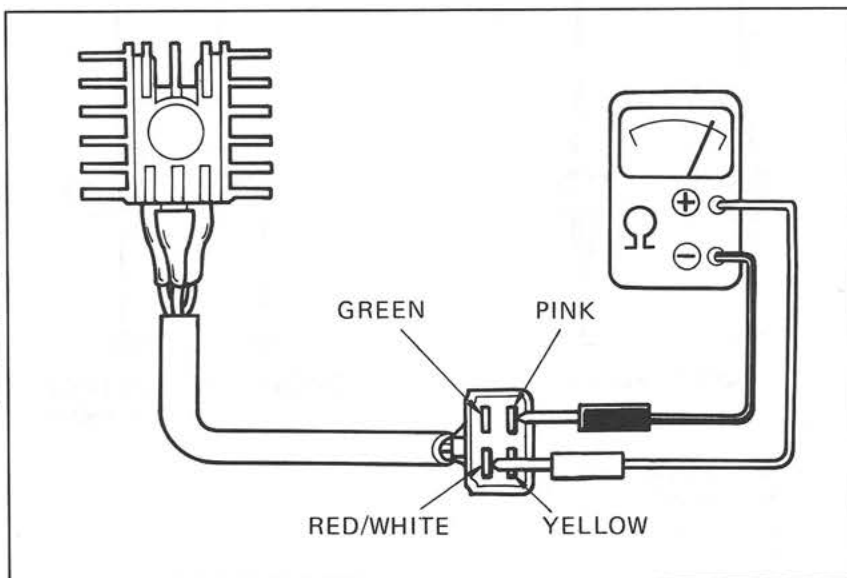
NOTE

Perform the rectifier inspection, noting the polarity of the tester. Do not test with a megger. (High voltage damages the diodes.)



Continuity should exist according to the following table. When (+) and (–) are exchanged, there should be no continuity.

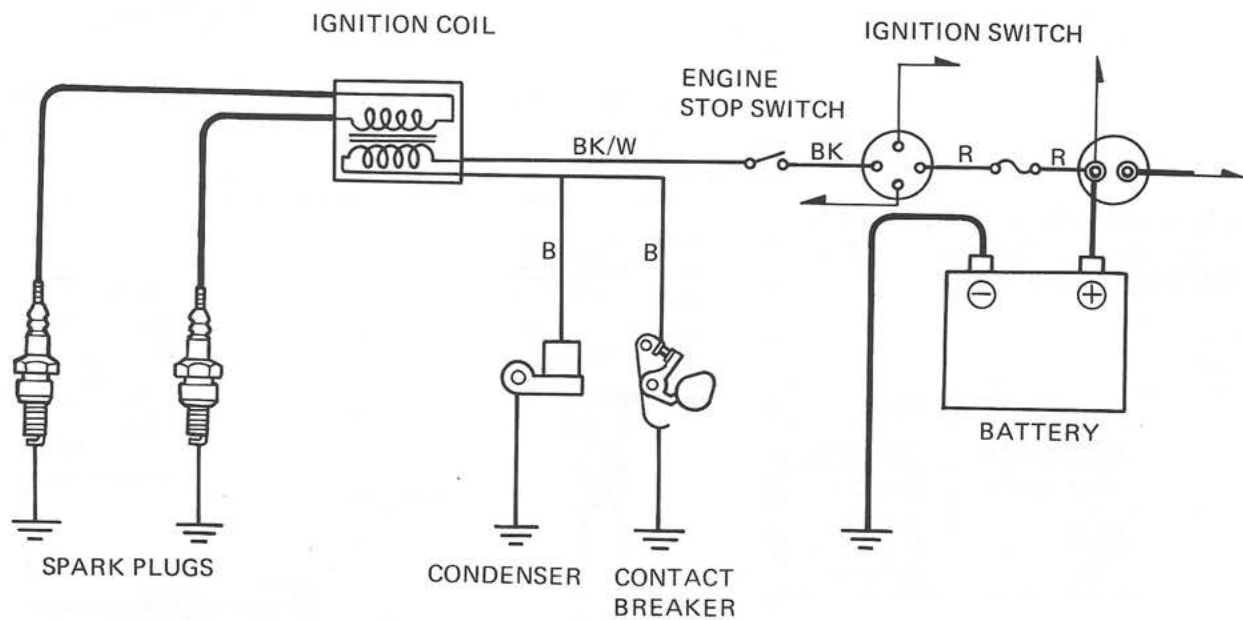
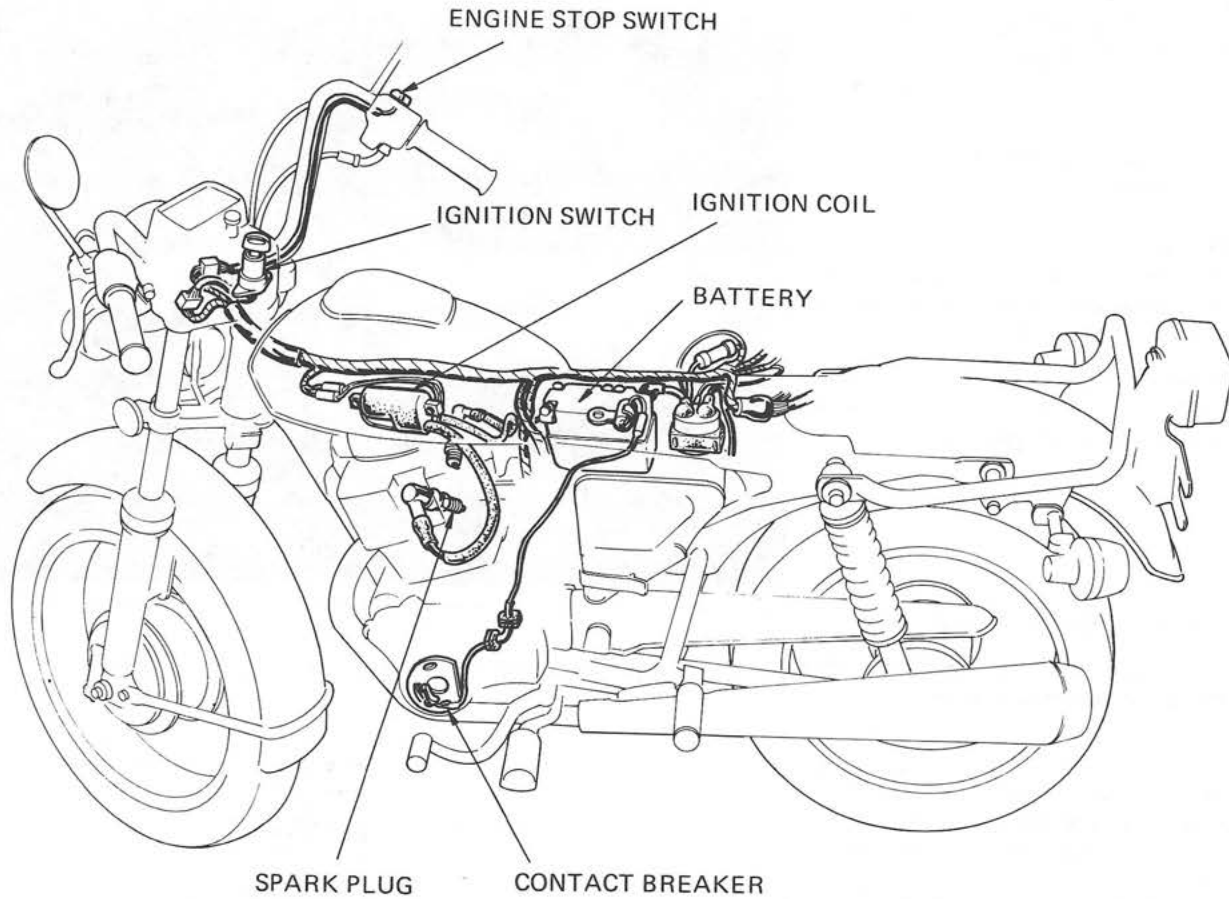
TESTER POLARITY	–	+
WIRE COLOR	RED/WHITE	PINK
	RED/WHITE	YELLOW
	RED/WHITE	GREEN
	PINK	GREEN
	YELLOW	GREEN



IGNITION SYSTEM



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W- WHITE
BK- BLACK
B- BLUE
R- RED



SERVICE INFORMATION	15-1
TROUBLESHOOTING	15-2
IGNITION COIL	15-3
CONDENSER	15-4

SERVICE INFORMATION

• WORKING PRACTICE

This section describes the parts of the ignition system.

Spark plug: Refer to section 3.

Contact breaker: Refer to section 9.

Be sure that the battery is fully charged before diagnosing troubles in the ignition system.

• SPECIFICATIONS

Spark plug
type:

for cold climate below 5°C (41°F)		standard		for extended high speed driving	
ND	NGK	ND	NGK	ND	NGK
U20FS	C6H	U22FS	C7HS	U24FB	C9H

Plug gap: 0.6–0.7 mm (0.024–0.028 in.)

Contact breaker points
point gap: 0.3–0.4 mm (0.012–0.016 in.)

Condenser capacity: 0.25 ± 10% μF

Ignition advance F mark (initial): 15° B.T.D.C.

Max. advance: 37–40° B.T.D.C.

From "F" to max. advance: 1,800 rpm–3,100 rpm



TROUBLESHOOTING

Engine Cranks but Will Not Start

1. Engine stop switch OFF
2. No spark at plugs
3. Improper ignition timing
4. Plugs fouled
5. Plug wires crossed
6. Open ignition diode
7. Ignition malfunction

No Spark at Plugs

1. Engine stop switch OFF
2. Points not opening
3. Points burned, wet, fouled or dirty
 - a. Loose or broken wire
 - b. Low battery, low charging voltage
 - c. Faulty ignition switch
 - d. Faulty starter button
 - e. Faulty engine stop switch
 - f. Faulty ignition coil
5. Faulty high tension cords
6. Coils weak or inoperative
7. Faulty condenser
8. Faulty spark plug
9. Ignition timing incorrect

Ignition Timing Incorrect

1. Incorrect breaker point gap
2. Faulty spark advancer

Engine Starts but Runs Poorly

1. Ignition primary circuit
 - a. Points dirty or fouled
 - b. Incorrect point gap
 - c. Weak or defective coil
 - d. Faulty capacitor
 - e. Loose or bare wire
 - f. Intermittent short-circuit in a switch
2. Ignition secondary circuit
 - a. Plugs fouled or worn
 - b. Faulty or crossed plug wires
3. Ignition timing
 - a. Improper ignition timing
 - b. Faulty advancer mechanism
4. Low battery, low charging voltage

Engine Kicks Back When Starting or Backfires When Running

1. Improper ignition timing

Misfiring during Acceleration

1. Worn spark plug, breaker points and/or ignition wires
2. Incorrect ignition timing

Backfiring

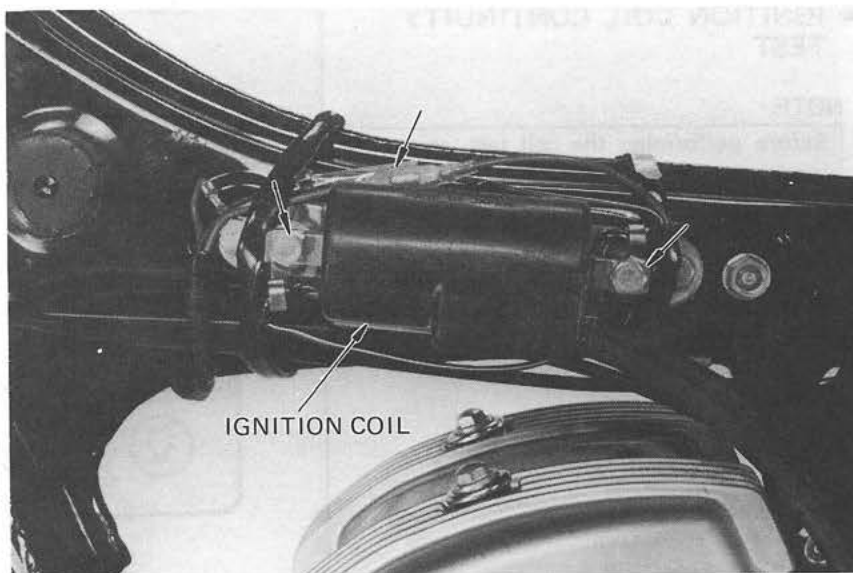
1. Ignition timing incorrect
2. Ignition malfunction



IGNITION COIL

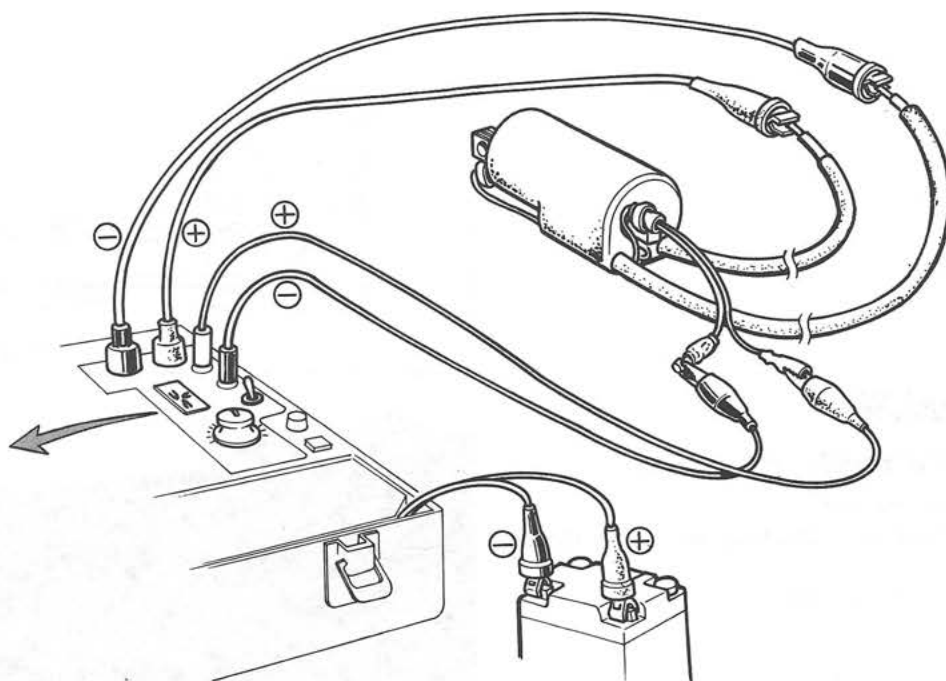
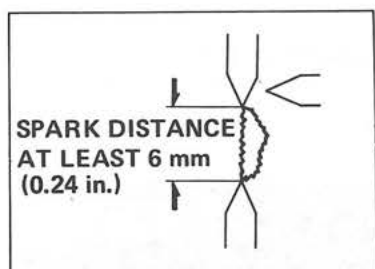
● IGNITION COIL REMOVAL

Remove the seat.
Remove the fuel tank.
Disconnect the wire.
Remove the coil.



● IGNITION COIL INSPECTION

3-point spark test. The coil is satisfactory if the spark jumps across the gap greater than 6 mm (0.24 in.).





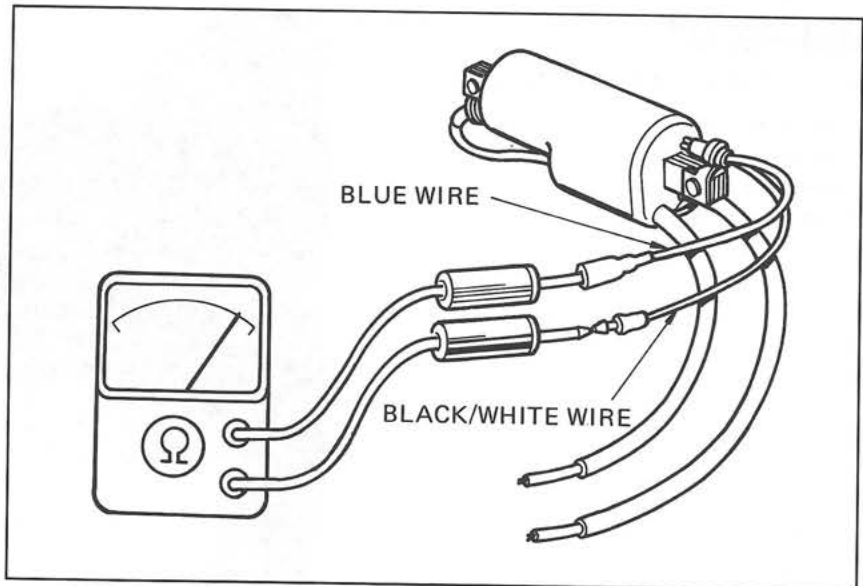
- **IGNITION COIL CONTINUITY TEST**

NOTE

Before performing the coil test, remove spark plug caps.

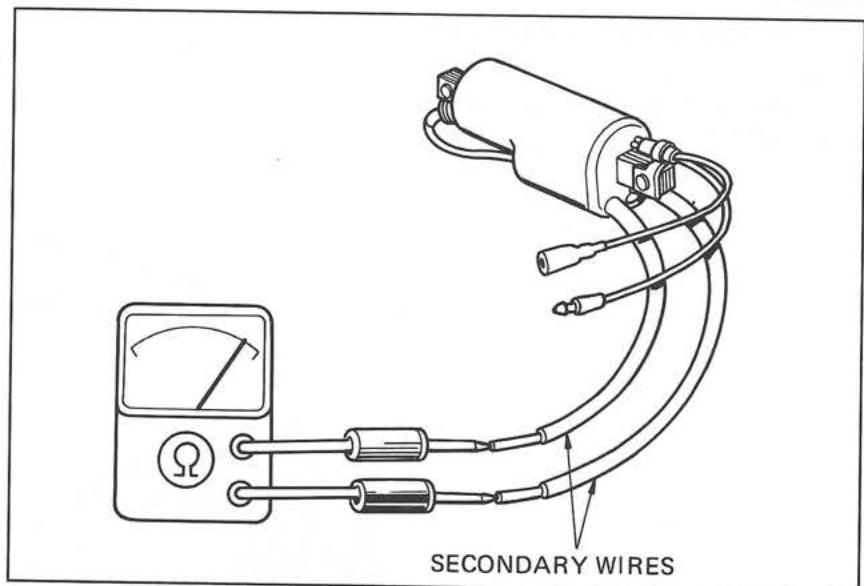
- **PRIMARY COIL CONTINUITY TEST**

There should be continuity between blue and black/white wires.



- **SECONDARY COIL CONTINUITY TEST**

There should be continuity between secondary wires.



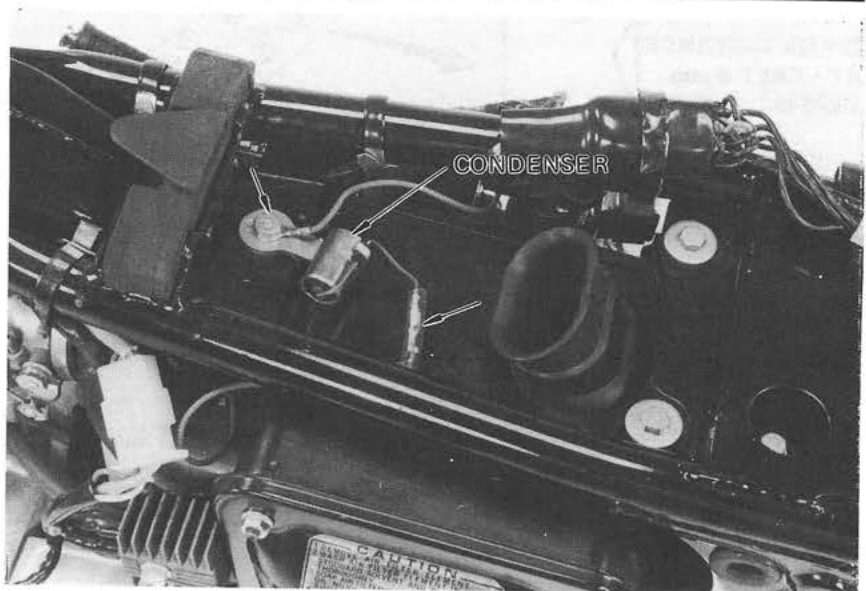
CONDENSER

- **CONDENSER REMOVAL**

Remove the seat.

Disconnect the condenser wire from the connector.

Remove the condenser.





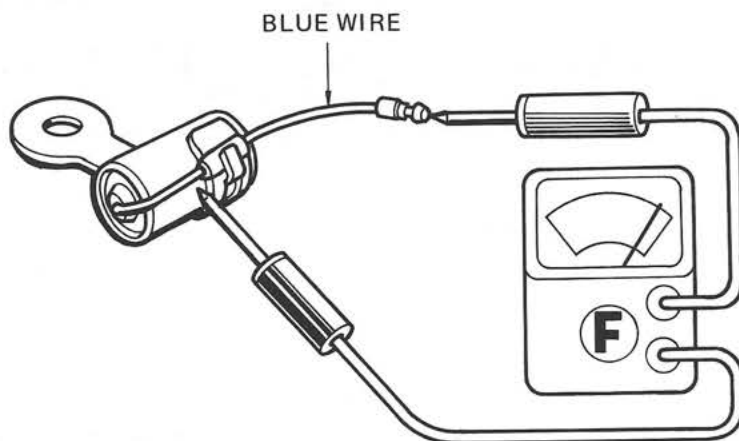
● CONDENSER INSPECTION

Measure the capacity after shorting the condenser.



SHORTING THE CONDENSER

Measure the condenser capacity.



CAPACITY: $0.25 \mu\text{F} \pm 10\%$



SERVICE INFORMATION	16-1
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STARTING MOTOR	16-3
STARTER MAGNETIC SWITCH	16-6

SERVICE INFORMATION

● WORKING PRACTICE

This section describes servicing of the starter motor.

Starter motor removal: Refer to section 9.

Starter clutch removal: Refer to section 9.

While servicing the starter motor, the main switch must be kept "OFF".

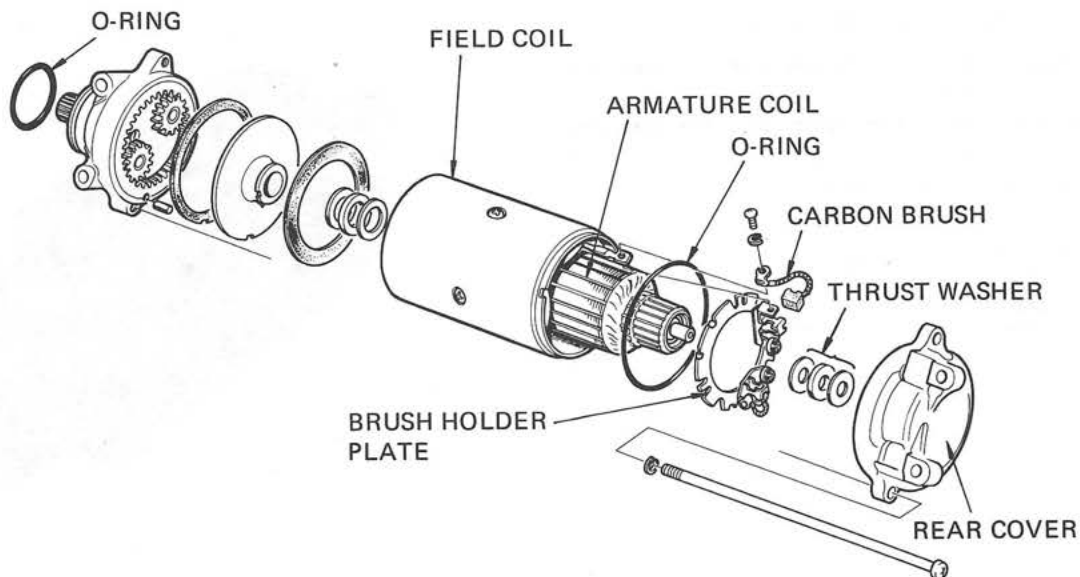
● SPECIFICATIONS

Starter Motor

Type:	6V gear-reduction electric motor	
Drive:	Chain to crank shaft	
Rated Output:	0.25 kw	
Reduction ratio:	6.44	
	Load	Locked
Voltage	4.2V	2.8V
Amperage	120A	Max. 300A
Torque (minimum, sprocket shaft)	Min. 0.55 kg-m	1.5 kg-m
RPM (minimum, sprocket shaft)	Min. 400 rpm	
Brush length:	12.2-12.4 mm (0.4803-0.4882 in.)	
Service limit:	7.0 mm (0.2756 in.)	



STARTING MOTOR

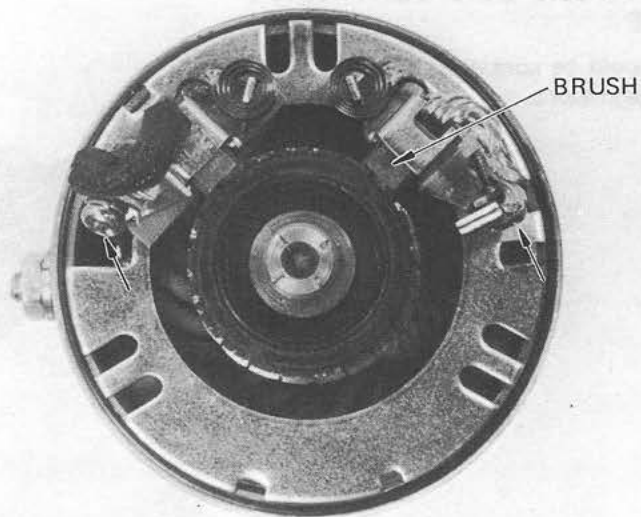


● CARBON BRUSH REMOVAL

Remove the starter motor case screws and the rear cover.

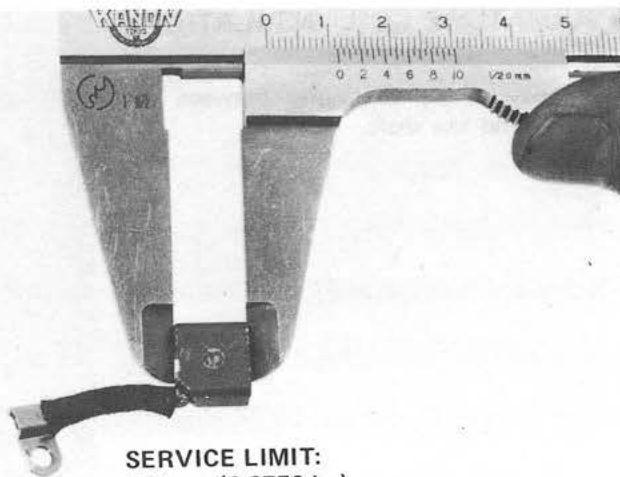
Loosen the brush terminal screws.

Remove the brushes from the holder plate.



● BRUSH INSPECTION

Measure the carbon brush length.



SERVICE LIMIT:
7.0 mm (0.2756 in.)



- **COMMUTATOR INSPECTION**

Remove the brush holder and pull the commutator out. Inspect the commutator bars for discoloration. If two or more bars are discolored, replace the commutator.

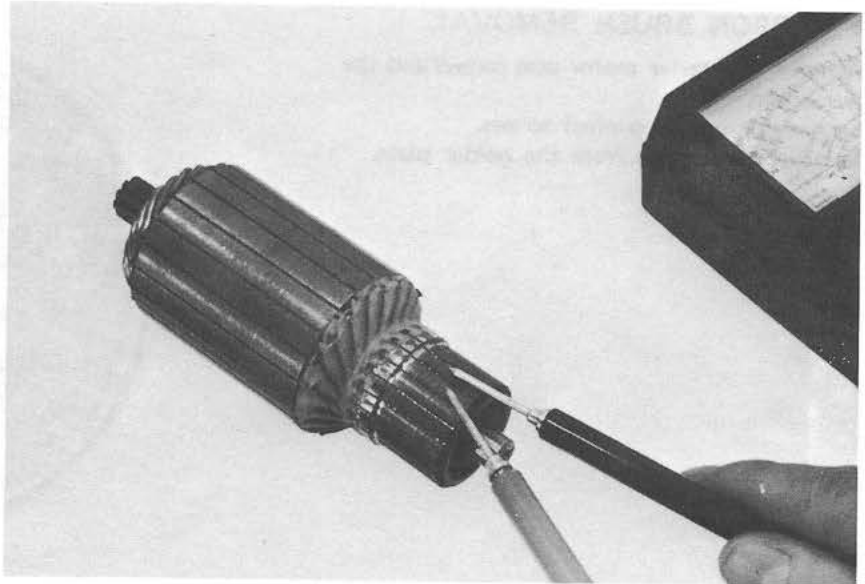
NOTE

Do not use emery or sand paper on the commutator.



- **ARMATURE COIL CONTINUITY TEST**

There should be continuity between the separate commutators.



- **ARMATURE COIL INSULATION TEST**

There may be no continuity between commutators and the shaft.





● FIELD COIL INSPECTION

Check for continuity from the cable terminal to the motor case and from the cable terminal to the brush wire.

Cable terminal to motor case: **No continuity**

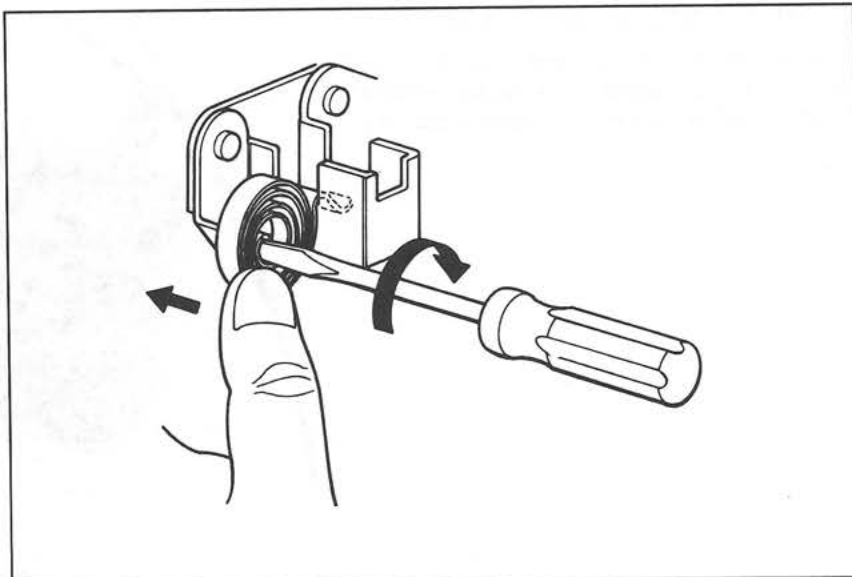
Cable terminal to brush wire: **Continuity**



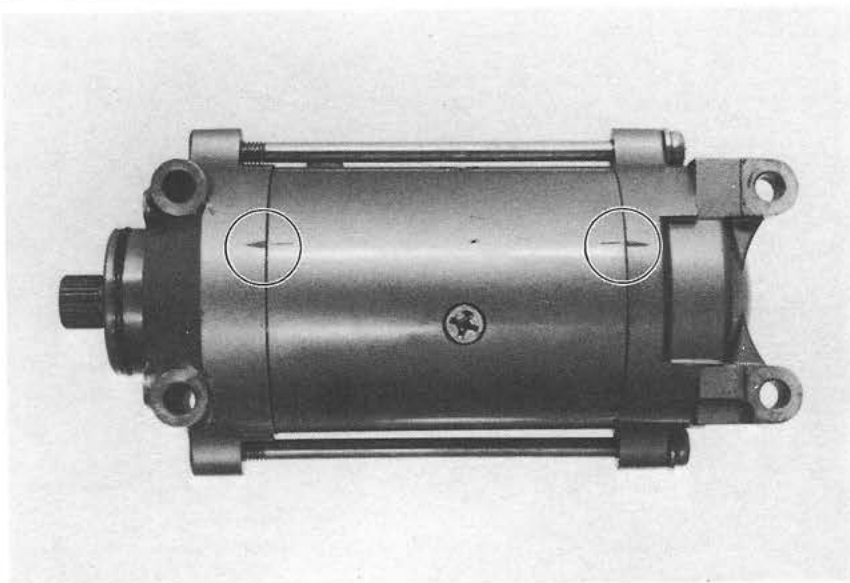
● BRUSH SPRING INSTALLATION

Attach the spring edge into the groove of brush holder, insert the driver into the inside of spring and coil it up fully.

Install the spring on the brush holder plate by finger pressure, as shown.



Install the rear cover and align the index marks on the case and rear cover.
Tighten the stator cover bolts.



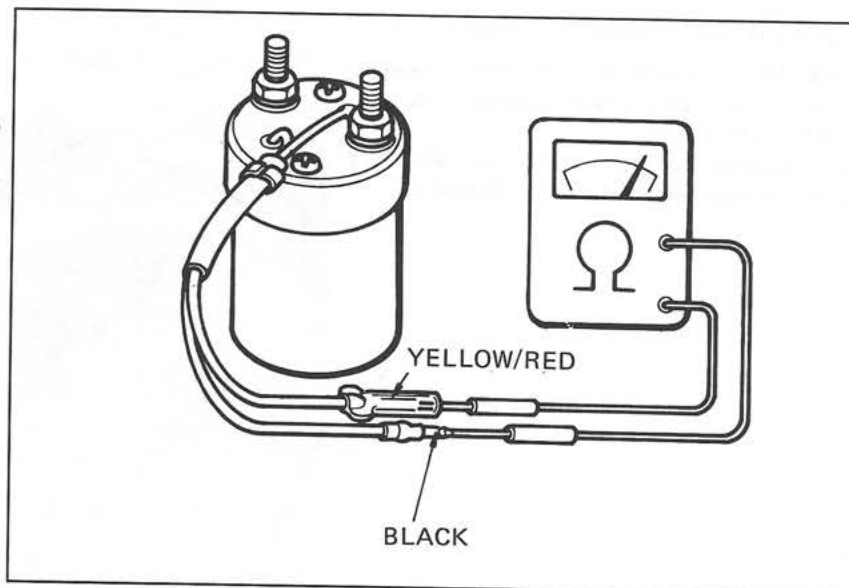


STARTER MAGNETIC SWITCH

• INSPECTION

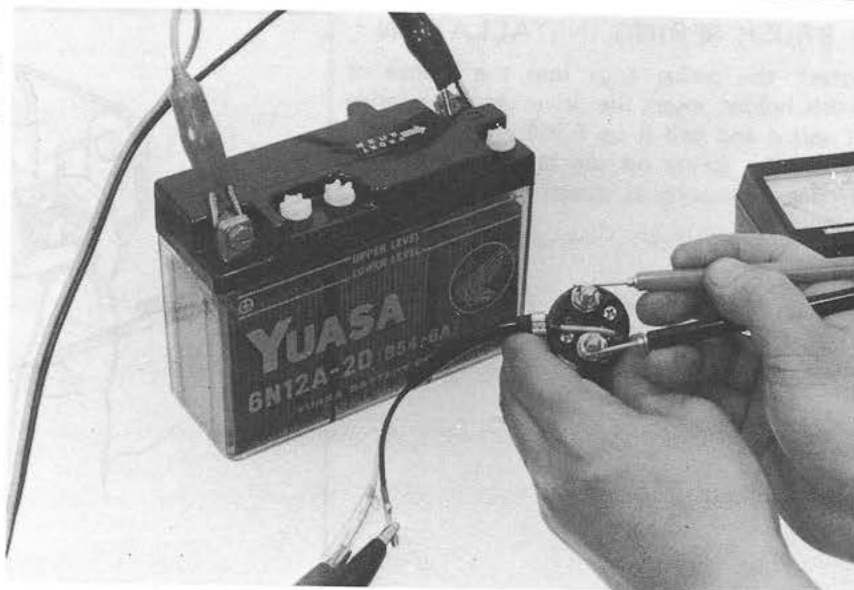
Check for continuity from Yellow/Red wire to Black wire.

Yellow/Red wire to Black wire: Continuity



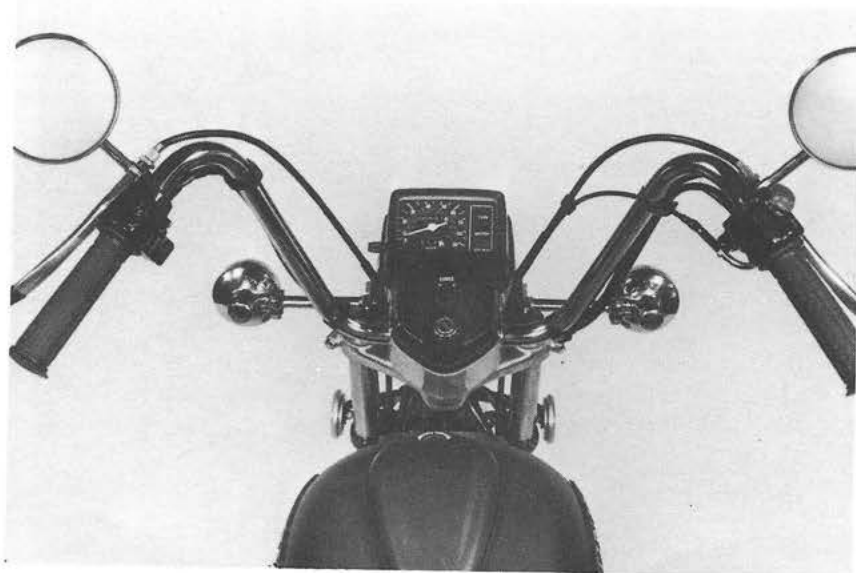
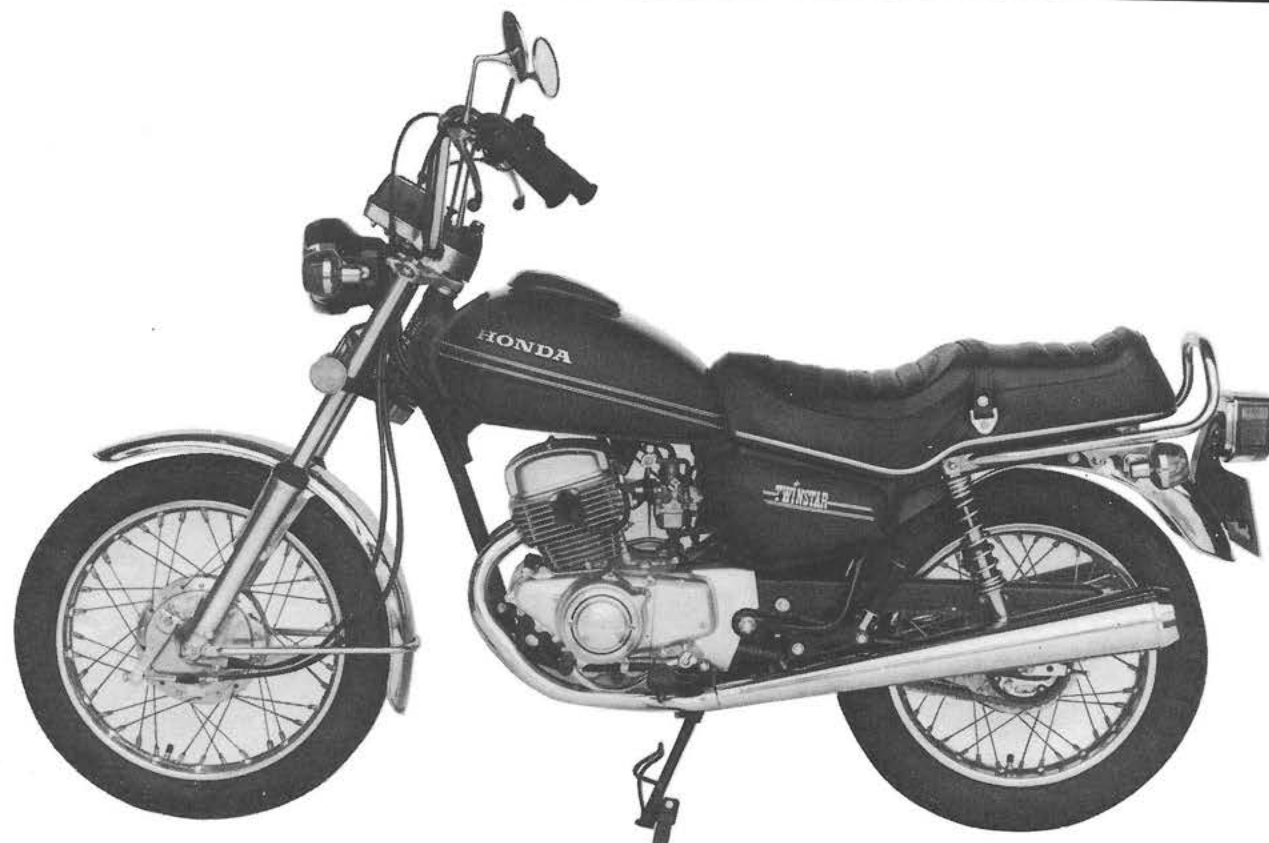
• SWITCH OPERATION TEST

Connect 6-volt source across primary leads and check for continuity between terminals. There should be continuity between the terminals.





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CM185T





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FRONT STOP LIGHT SWITCH	17-6
REAR STOP LIGHT SWITCH	17-6
HORN	17-6

SERVICE INFORMATION

● WORKING PRACTICE

All electrical wires and connectors are color-coded. When two or more different colored wires are connected, a colored tube that matches the major color of the other wire appears on the wire near the connector. Observe the color codes before disconnecting any wires.

All plastic plugs have locking tabs that must be released before disconnecting, and must be aligned when reconnecting. In order to isolate an electrical failure, check the continuity of the electrical path through the part. A continuity check can usually be made without removing the part from the motorcycle — by simply disconnecting the wires and connecting a continuity tester or volt-ohmmeter to the terminals or connections.

A continuity tester is useful when checking to find out whether or not there is an electrical connection between the two points. If the quality of the circuit is important, as when there is a specific coil resistance involved, or when checking for high resistance caused by corroded connections, an ohmmeter is needed. Many ohmmeters also have voltmeter circuits built into the same case.

● SPECIFICATIONS

Bulbs	(6V)	
Headlight:		25/35W
Tail/stoplight:		3/32 cp
Turn signal light:		21 cp
Meter lights:		2 cp
Neutral indicator:		2 cp
Turn signal indicator:		1 cp
High beam indicator:		1 cp



TROUBLESHOOTING

General Principle:

If a Light Does Not Come on When Its Switch Is Operated, One of the Following Is True

1. Bulb faulty or burned out
2. Faulty switch
3. Wiring to that component has open circuit
4. Fuse blown

No Lights Come on When Ignition Switch Is Turned ON

1. Battery dead or disconnected
2. Ignition switch disconnected from harness
3. Faulty ignition switch
4. Faulty main fuse (20 amp)
5. Wiring faulty, loose, or broken

All Lights Come on, but Dimly, When Ignition Switch Is Turned ON

1. Battery low
2. Wiring or switch has excessive resistance

Headlight Beams Do Not Shift When HI-LO Switch Is Operated

1. Beam filament burned out
2. Faulty dimmer switch
3. Faulty starter button in free position

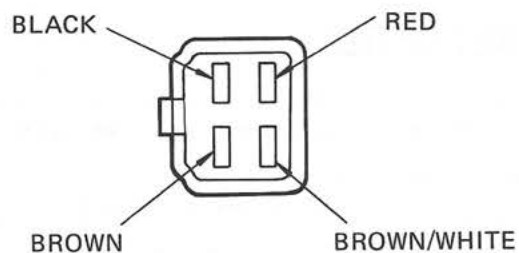
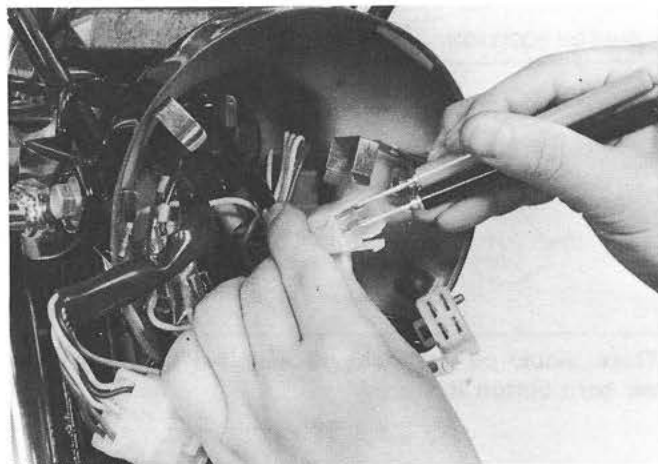


IGNITION SWITCH

Remove the headlight and disconnect the headlight switch coupler (white coupler).

WIRE COLOR SWITCH POSITION	RED	BLACK	BROWN/ WHITE	BROWN
 OFF				
	O—O		O—O	
 P	O—O			O—O

There should be continuity as indicated by O—O in the table.

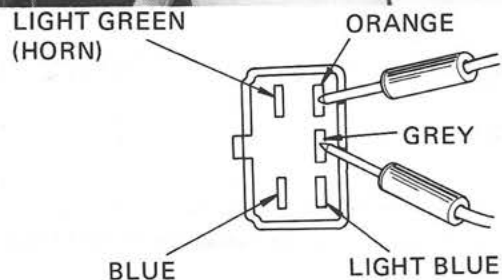
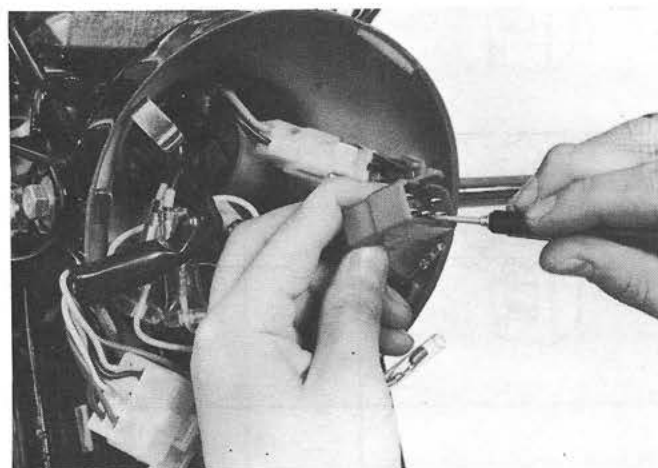


TURN SIGNAL SWITCH

Disconnect the winker switch coupler (red coupler).

WIRE COLOR SWITCH POSITION	GREY	ORANGE	LIGHT BLUE
 L	O—O		
 R			O—O

There should be continuity as indicated by O—O in the table.



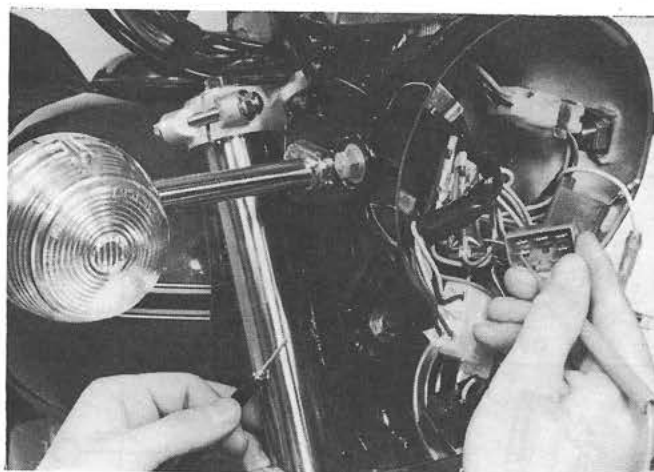


HORN SWITCH

Disconnect the horn switch coupler (red coupler).

SWITCH POSITION	WIRE COLOR	
	LIGHT GREEN	GROUND
 "ON"	○ — ○	

There should be continuity as indicated by O—O when the horn button is pushed.

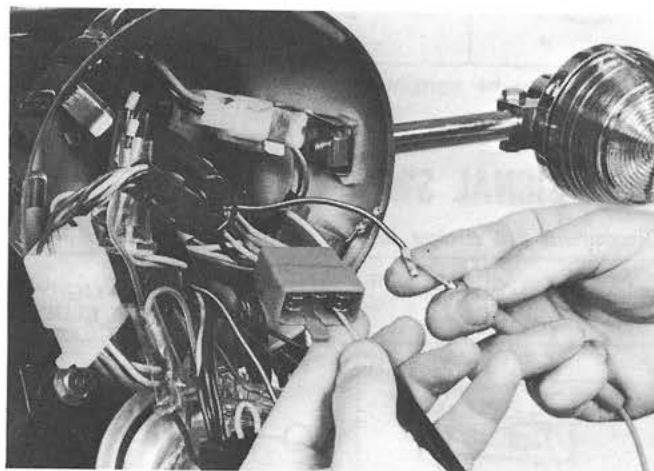


DIMMER SWITCH

Disconnect the dimmer switch coupler (red coupler) and wire connectors (blue/white wire and white wire).

SWITCH POSITION	WIRE COLOR		
	WHITE	BLUE	BLUE/WHITE
 "HI"		○ — ○	
 (Middle position)	○ — ○	○ — ○	○ — ○
 "LO"	○ — ○		○ — ○

There should be continuity as indicated by O—O in the table.



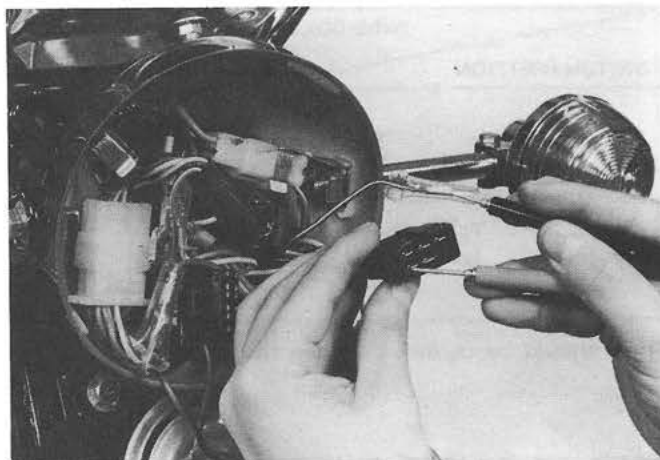


STARTER SWITCH

Disconnect the black coupler.

WIRE COLOR SWITCH POSITION	BLACK	BLUE/ BLACK	YELLOW RED
	○	—	○
	○	○	

There should be continuity as indicated by O—O in the table.

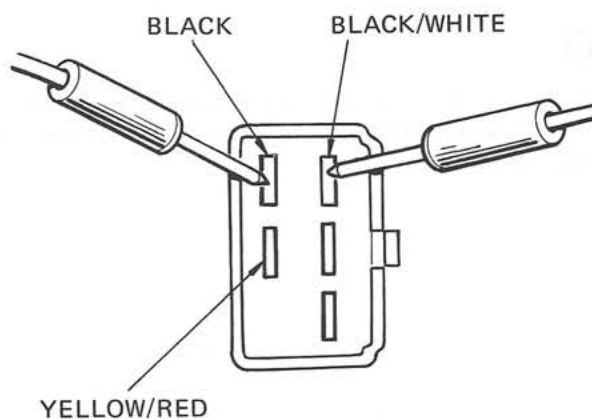


ENGINE STOP SWITCH

Disconnect the engine stop switch coupler (black coupler).

WIRE COLOR SWITCH POSITION	BLACK	BLACK/ WHITE
 OFF RUN OFF		
 OFF RUN OFF	○	○

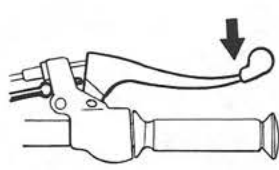
There should be continuity as indicated by O—O in the table.



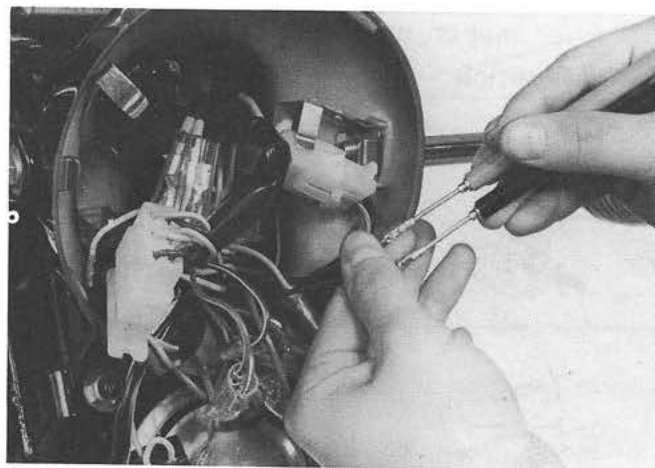


FRONT STOP LIGHT SWITCH

Disconnect the green/yellow wire and black wire.

SWITCH POSITION	WIRE COLOR	
	GREEN/YELLOW	BLACK
		

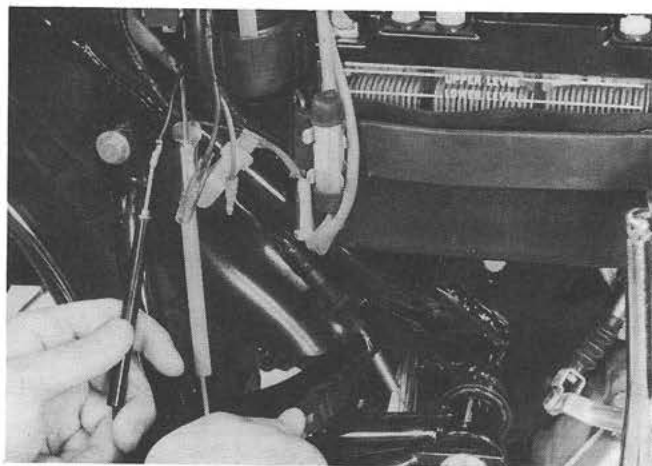
There should be continuity when the lever is pulled.



REAR STOP LIGHT SWITCH

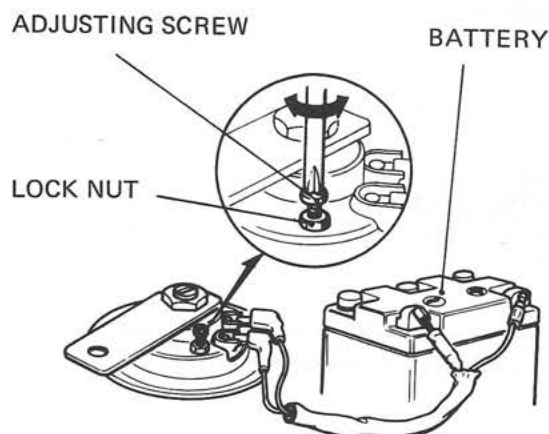
Operate the switch to check for continuity.

There should be continuity with the brake lever is pulled.



HORN

Test the horn sound by applying 6 volt battery directly. If sound is small, adjust the horn sound by turning the adjusting screw.

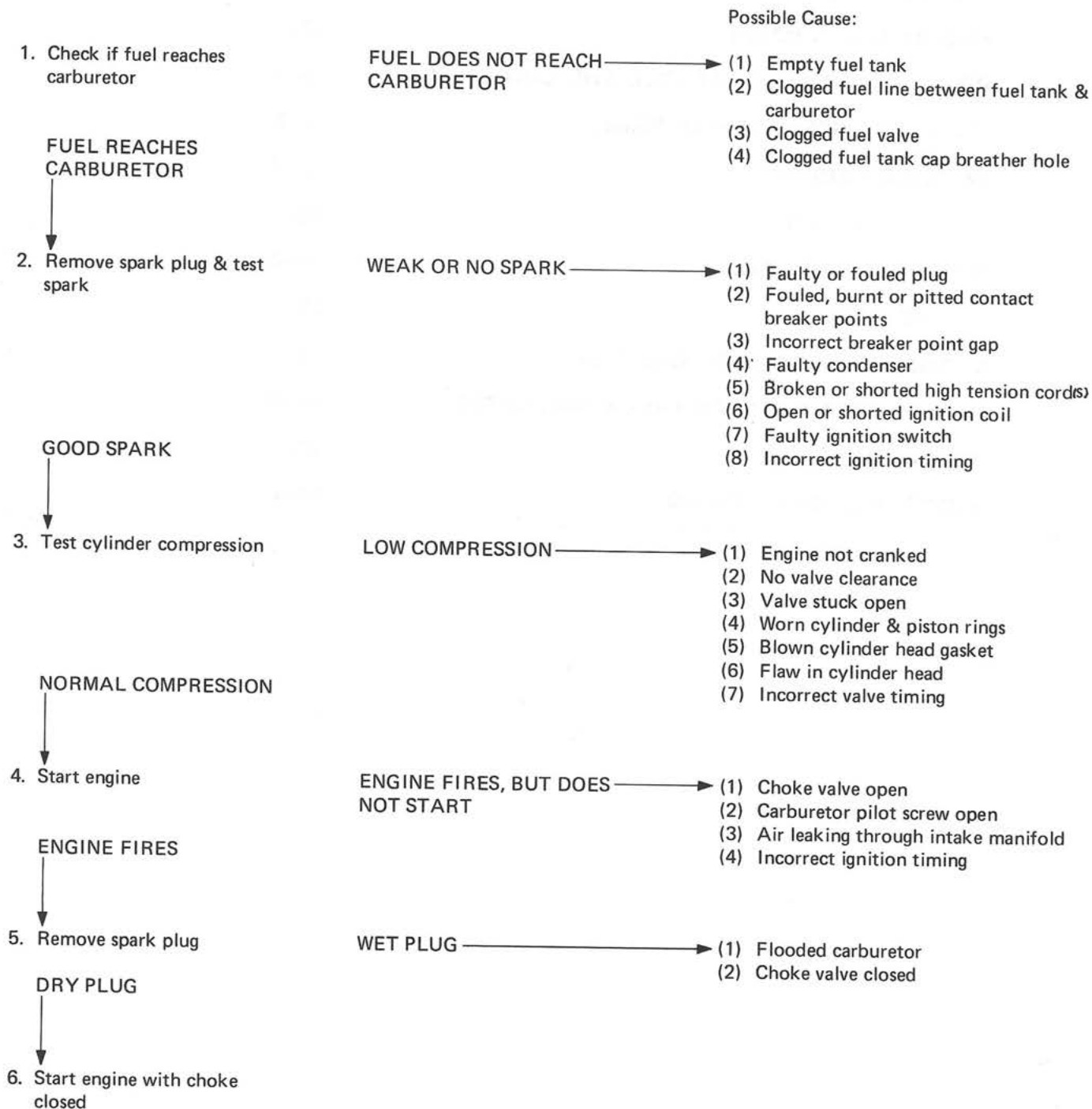




ENGINE WILL NOT START OR HARD TO START	18-2
ENGINE LACKS POWER	18-3
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POOR HIGH SPEED PERFORMANCE	18-5
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FAULTY FRONT & REAR SHOCK ABSORBERS	18-8
FAULTY BRAKE	18-8
ELONGATED DRIVE CHAIN	18-8



ENGINE WILL NOT START OR IS HARD TO START





ENGINE LACKS POWER

Possible Cause:

1. Raise wheels off ground & spin

WHEELS DO NOT SPIN
FREELY

- (1) Dragging brake
- (2) Faulty wheel bearing
- (3) Overtightened drive chain

↓
WHEELS SPIN FREELY

2. Check tire pressure

INCORRECT TIRE PRESSURE

- (1) Punctured tire
- (2) Faulty tire valve

↓
NORMAL PRESSURE

3. Rapidly accelerate from low to second

DOES NOT ACCELERATE WITH
ENGINE SPEED RAISED

- (1) Slipping clutch
- (2) Worn or uneven clutch facings

↓
ACCELERATES

4. Rev up gradually

ENGINE SPEED DOES NOT
INCREASE

- (1) Carburetor choke closed
- (2) Clogged air cleaner
- (3) Clogged fuel line
- (4) Clogged fuel tank cap breather hole
- (5) Clogged muffler

↓
ENGINE SPEED
INCREASES

5. Check ignition timing

INCORRECT TIMING

- (1) Incorrect ignition timing
- (2) Ignition malfunction

↓
CORRECT TIMING

6. Check valve clearance

INCORRECT VALVE
CLEARANCE

- (1) Incorrect valve clearance
- (2) Worn valve seat

↓
CORRECT VALVE
CLEARANCE

7. Test cylinder compression

LOSS OF COMPRESSION

- (1) Valve stuck open
- (2) Worn cylinder & piston rings
- (3) Blown cylinder head gasket
- (4) Incorrect valve timing

↓
NORMAL COMPRESSION

8. Check carburetor for clogging

CARBURETOR CLOGGED

- (1) Carburetor jets clogged

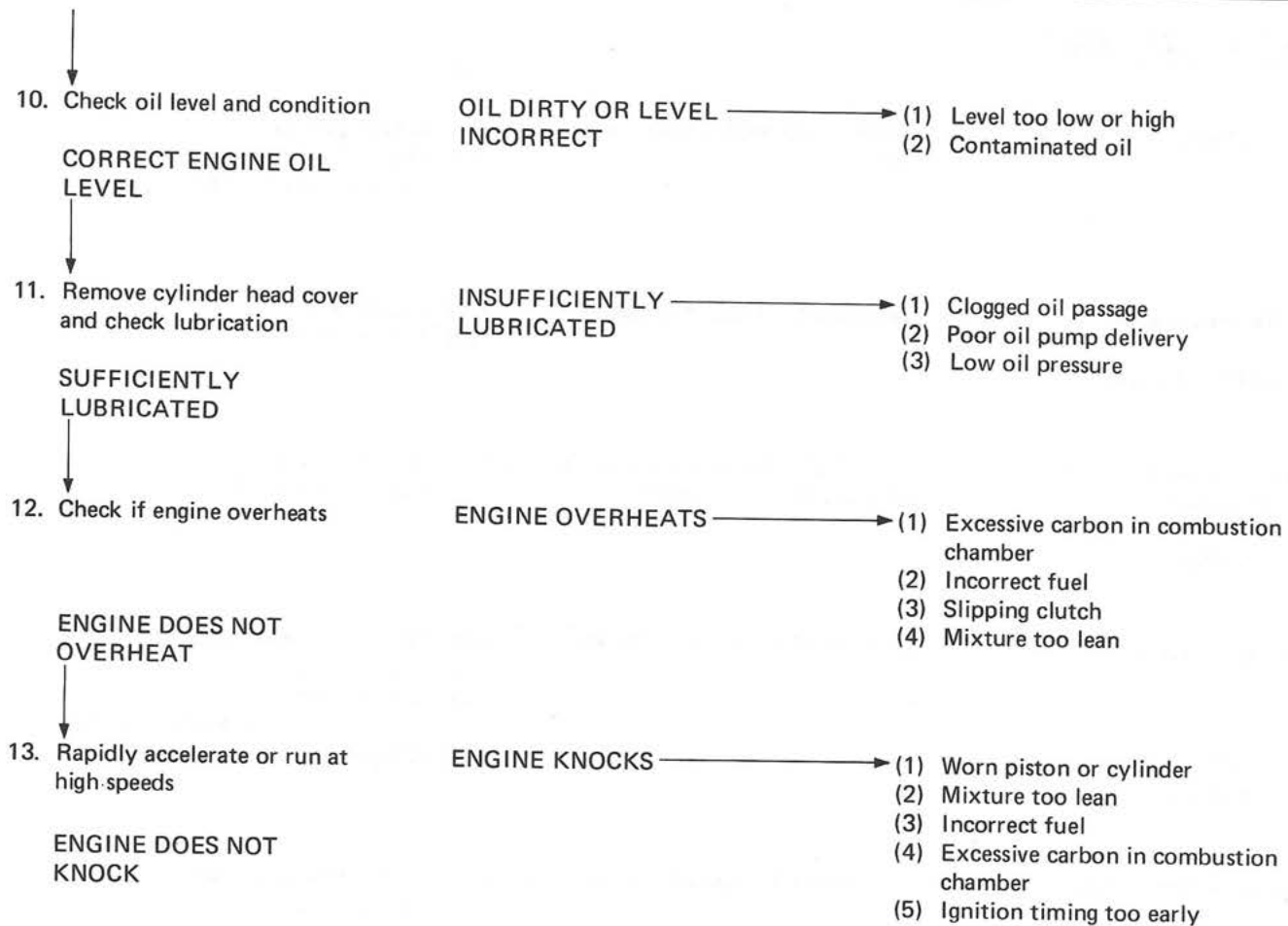
↓
CARBURETOR NOT
CLOGGED

9. Remove spark plug

PLUG FOULED OR DIS-
COLORED

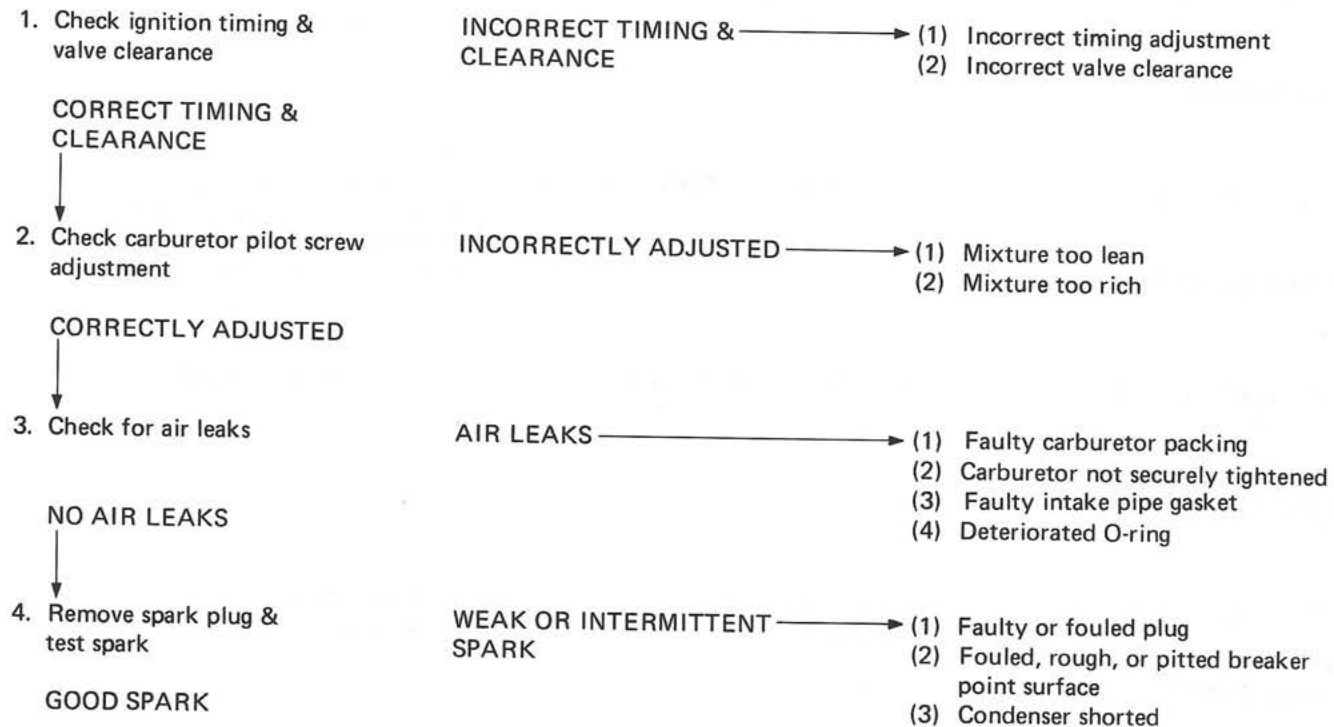
- (1) Fouled plug
- (2) Incorrect heat range plug

↓
PLUG NOT FOULED OR
DISCOLORED



POOR PERFORMANCE AT IDLE AND LOW SPEED

Possible Cause:





POOR HIGH SPEED PERFORMANCE

Possible Cause:

1. Check ignition timing & valve clearance

INCORRECT TIMING & CLEARANCE

- (1) Incorrect timing adjustment
- (2) Incorrect valve clearance

CORRECT TIMING & CLEARANCE

2. Disconnect fuel tube at carburetor and check for clogging

RESTRICTED FUEL FLOW

- (1) Empty fuel tank
- (2) Clogged fuel tube
- (3) Clogged fuel tank cap breather hole

UNRESTRICTED FUEL FLOW

3. Check fuel filter, fuel valve, & carburetor jet for clogging

CLOGGED

- (1) Clogged jet
- (2) Clogged fuel filter
- (3) Clogged fuel valve

NOT CLOGGED

4. Replace carburetor main jet

CONDITION AGGRAVATED

- (1) Jet size too small
- (2) If condition improved with small jet:
 - a) Clogged air cleaner
 - b) Choke not opened fully

CONDITION IMPROVED

5. Check valve timing

INCORRECT

- (1) Incorrect valve timing adjustment

CORRECT

6. Check valve spring tension

WORN OR BROKEN SPRING

- (1) Faulty valve spring

SPRING TENSION
CORRECT

SMOKING EXHAUST

Possible Cause:

1. Run motorcycle a long distance at high speed

BLACK SMOKE EMITTED

- (1) Worn cylinder & piston rings
- (2) Oil level too high
- (3) Piston rings incorrectly installed
- (4) Faulty piston or cylinder
- (5) Flaws in cylinder head

THIN EXHAUST EMITTED

2. Return throttle grip quickly

WHITE SMOKE EMITTED

- (1) Worn intake valve guide or stem
- (2) Deteriorated valve guide O-ring



NO WHITE SMOKE
EMITTED

3. Run motorcycle a long
distance at low speed

UNCOLORED EXHAUST

WHITE SMOKE EMITTED

- (1) Worn exhaust valve guide & stem
(2) Exhaust valve guide incorrectly seated
(3) Worn exhaust valve stem seal

FAULTY CLUTCH

1. Properly adjust clutch

2. With clutch disengaged,
rev up engine in first gear

CLUTCH SLIPPING

Possible Cause:

- (1) Weak clutch spring
(2) Worn or distorted clutch plate or
friction disc

MOTORCYCLE TENDS TO
CREEP WITH CLUTCH
DISENGAGED

- (1) Distorted clutch plate or friction disc
(2) Uneven clutch spring tension

DIFFICULT SHIFTING

Possible Cause:

DIFFICULT SHIFTING

- (1) Broken gear shift arm spring
(2) Broken shift fork
(3) Sluggish movement of shift drum &
fork
(4) Broken shifting gear protrusion
(5) Shift fork pawl disconnected from
shift drum

PEDAL NOT RETURNED
TO NEUTRAL

- (1) Broken shift spindle return spring
(2) Shift spindle interfering with case or
cover

GEARS JUMPING OUT OF
POSITION

- (1) Bent shifting gear or worn shift fork
(2) Broken or weakened shift drum
stopper spring



ENGINE NOISE

Possible Cause:

- TAPPET NOISE —————→ (1) Excessive valve clearance
(2) Worn tappet
- PISTON SLAP —————→ (1) Worn piston & cylinder
(2) Excessive carbon in combustion chamber
(3) Worn piston pin & connecting rod small end
- CAM CHAIN NOISE —————→ (1) Worn camshaft bearing & journal
(2) Worn camshaft sprocket teeth
(3) Excessively elongated drive chain
- CLUTCH CHATTER —————→ (1) Excessive clearance between clutch plate & cover
- NOISY DRIVE & DRIVEN GEARS —————→ (1) Worn or deteriorated driven gear damper
(2) Worn gear teeth

MOTORCYCLE PULLS TO ONE SIDE

Possible Cause:

- DIFFICULT STEERING IN BOTH DIRECTIONS —————→ (1) Overtightened steering head top thread nut
(2) Broken steering steel balls
(3) Bent steering stem
- WHEEL WOBBLES —————→ (1) Excessive play in wheel bearing
(2) Distorted wheel rim
(3) Loose spokes
(4) Excessive play in rear fork pivot bushing
(5) Twisted frame
(6) Drive chain adjuster unequally adjuster
- MOTORCYCLE PULLS TO ONE SIDE —————→ (1) Unbalanced front & rear shock absorbers
(2) Front & rear wheels not aligned
(3) Bent front or rear fork

**FAULTY FRONT & REAR SHOCK ABSORBERS**

Possible Cause:

- SOFT RIDE** —————→ (1) Weakened spring
(2) Excessive load
(3) Lack of front fork oil
(4) Faulty rear shock absorber
- HARD RIDE** —————→ (1) Front fork oil level too high
(2) Faulty front fork
(3) Faulty rear shock absorber
- NOISE IN SHOCK ABSORBER** —————→ (1) Faulty stopper rubber
(2) No oil in shock absorber
(3) Faulty rear shock absorber

FAULTY BRAKE

Possible Cause:

- INEFFECTIVE ADJUSTER** —————→ (1) Worn brake lining, brake shoe cam or brake cam
- SQUEAKING** —————→ (1) Worn brake lining
(2) Foreign particles on brake lining
(3) Rough brake drum shoe contacting face
(4) Worn brake panel bushing
- INEFFECTIVE BRAKE** —————→ (1) Faulty front brake cable
(2) Brake shoe partially contacted
(3) Mud or water in brake
(4) Oil or grease on brake lining
(5) Worn brake lining

ELONGATED DRIVE CHAIN

Possible Cause:

- (1) Incorrect adjustments
(2) Not lubricated sufficiently enough
(3) Worn sprocket



HONDA
CM185T

19. '79 ADDENDUM

INTRODUCTION

This '79 addendum contains service data for the 1979 HONDA CM185T. Refer to the base shop manual for data and procedures not included in this addendum.

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- MAINTENANCE SCHEDULE 19-3

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SPECIFICATION

ITEM		
DIMENSIONS	Overall length	1,960 mm (77.2 in)
	Overall width	830 mm (32.7 in)
	Overall height	1,130 mm (44.5 in)
	Wheelbase	1,280 mm (50.4 in)
	Seat height	730 mm (28.7 in)
	Footpeg height	305 mm (12.0 in)
	Dry weight	124 kg (273 lbs)
FRAME	Type	Diamond
	Front suspension, travel	Telescopic fork 115 mm (4.53 in)
	Rear suspension, travel	Swing arm 64 mm (2.53 in)
	Front tire size, pressure	3.00-17-4PR 1.75 kg/cm ² (25 psi)
	Rear tire size, pressure	3.50-16-4PR 2.25 kg/cm ² (32 psi)
	Front brake, lining swept area	Internal expanding shoes, 110 cm ² (17.05 sq in)
	Rear brake, lining swept area	Internal expanding shoes, 123 cm ² (19.07 sq in)
	Fuel capacity	10.5 liters (2.8 US gal)
	Fuel reserve capacity	3.0 liters (0.8 US gal)
	Caster angle	62°
	Trail	92 mm (3.6 in)
	Front fork oil capacity	125 cc (4.2 oz), 98 cc (3.3 oz) at draining
ENGINE	Type	Air cooled 4-stroke
	Cylinder arrangement	Parallel twin inclined 20° from vertical
	Bore and stroke	53 x 41 mm (2.09 x 1.61 in)
	Displacement	181 cc (11.03 cu in)
	Compression ratio	9.0 : 1
	Valve train	Chain drive overhead camshaft
	Maximum horsepower	15.0 BHP/9,500 rpm
	Maximum torque	1.28 kg-m (9.26 ft-lb)/7,000 rpm
	Oil capacity	1.5 liters (1.6 US qt)
	Lubrication system	Pressure and wet sump
	Air filtration	Oiled polyurethane foam
	Cylinder compression	12.0 ± 2.0 kg/cm ² (170 ± 28 psi)
	Intake valve Opens	-3° (BTDC) at 1mm lift, 42° (BTDC) at 0 lift
	Closes	34° (ABDC) at 1mm lift, 100° (ABDC) at 0 lift
	Exhaust valve Opens	33° (BBDC) at 1mm lift, 98° (BBDC) at 0 lift
	Closes	-4° (ATDC) at 1mm lift, 45° (ATDC) at 0 lift
	Valve clearance	IN: 0.05 mm (0.002 in) EX: 0.05 mm (0.002 in)
	Idle speed	1,200 ± 100 rpm



MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION in the Owner's Manual at every maintenance period.

I: INSPECT, CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY.
 C: CLEAN
 R: REPLACE
 A: ADJUST
 L: LUBRICATE

	ITEM	FREQUENCY	WHICHEVER COMES FIRST ↓	ODOMETER READING (NOTE 3)				
				EVERY	600 mi (1,000 km)	3,750 mi (6,000 km)	7,500 mi (12,000 km)	11,250 mi (18,000 km)
EMISSION RELATED ITEMS	ENGINE OIL	YEAR	R	REPLACE EVERY 1,875 mi (3,000 km)				Page 2-2
	* ENGINE OIL SCREEN					C		Page 2-2
	CRANKCASE BREATHER(USA only)	NOTE 1			C	C	C	Page 3-3
	AIR CLEANER	NOTE 2			C	C	C	Page 3-2
	* FUEL LINES				I	I	I	Page 3-3
	SPARK PLUGS				I	R	I	Page 3-3
	* VALVE CLEARANCE		I	I	I	I	I	Page 3-4
	* CONTACT BREAKER POINTS		I	I	I	I	I	Page 3-5
	* IGNITION TIMING		I	I	I	I	I	Page 3-5
	* CAM CHAIN TENSION		A	A	A	A	A	Page 3-7
	THROTTLE OPERATION		I	I	I	I	I	Page 3-7
	* CARBURETOR IDLE SPEED		I	I	I	I	I	Page 3-8
	* CARBURETOR CHOKE				I	I	I	Page 3-8
NON-EMISSION RELATED ITEMS	DRIVE CHAIN		I, L EVERY 300 mi (500 km)					Page 3-10
	BATTERY	MONTH	I	I	I	I	I	Page 3-11
	BRAKE SHOE WEAR				I	I	I	Page 3-11
	BRAKE SYSTEM		I	I	I	I	I	Page 3-12
	* BRAKE LIGHT SWITCH		I	I	I	I	I	Page 3-14
	* HEADLIGHT AIM		I	I	I	I	I	Page 3-15
	CLUTCH FREE PLAY		I	I	I	I	I	Page 3-15
	SIDE STAND				I	I	I	Page 3-16
	* SUSPENSION		I	I	I	I	I	Page 3-17
	* NUTS, BOLTS, FASTENERS		I	I	I	I	I	Page 3-18
	** WHEELS/SPOKES		I	I	I	I	I	Page 3-17
	** STEERING HEAD BEARING		I			I		Page 3-18

- * SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND IS MECHANICALLY QUALIFIED.
- ** IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

NOTES: (1) Service more frequently when riding in rain or at full throttle.
 (2) Service more frequently when riding in dusty areas.
 (3) For higher odometer readings, repeat at the frequency interval established here.



HONDA
CM 200T

MEMO



INTRODUCTION

This Addendum contains information for the 1980 CM200T. Refer to the base Shop Manual for service procedures and data not included in this addendum.

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1. SPECIFICATIONS

[] CANADA MODEL



HONDA

CM 200T

'80 CM200T ADDENDUM

[] CANADA MODEL

	ITEM																			
DRIVE TRAIN	Clutch	Wet, multi-plate type																		
	Transmission	4-speed constant-mesh																		
	Primary reduction	3.632 (69/19)																		
	Gear ratio I	2.846 (37/13)																		
	Gear ratio II	1.778 (32/18)																		
	Gear ratio III	1.273 (28/22)																		
	Gear ratio IV	1.000 (22/22)																		
	Final reduction	2.333 (35/15)																		
	Gearshift pattern	Left foot -operated return system 1-N-2-3-4																		
ELECTRICAL	Ignition	Battery coil																		
	Ignition timing "F" mark	15° B.T.D.C. at idle																		
	Full advance	32— 35° B.T.D.C. at 2800 ± 100 rpm																		
	Starting system	Starter motor and kickstarter																		
	Alternator	80W/5,000 rpm																		
	Battery capacity	6V—12 AH																		
	Spark plug	<table><tr><td colspan="2">For cold climate below 5°C (41°F)</td><td colspan="2">Standard</td><td colspan="2">For extended high speed riding</td></tr><tr><td>ND</td><td>NGK</td><td>ND</td><td>NGK</td><td>ND</td><td>NGK</td></tr><tr><td>U20FS</td><td>C6H</td><td>U22FS</td><td>C7HS</td><td>U24FB</td><td>C9H</td></tr></table>	For cold climate below 5°C (41°F)		Standard		For extended high speed riding		ND	NGK	ND	NGK	ND	NGK	U20FS	C6H	U22FS	C7HS	U24FB	C9H
	For cold climate below 5°C (41°F)		Standard		For extended high speed riding															
	ND	NGK	ND	NGK	ND	NGK														
	U20FS	C6H	U22FS	C7HS	U24FB	C9H														
		[CR7HS (NGK) · U22FSR-L (ND)]																		
	Headlight	36.5/35W																		
Tail/stoplight	3/32 cp																			
Turn signal	21/21 cp	SAE No. 1129																		
Speedometer light	2 cp	SAE No. 55																		
Neutral indicator	2 cp	SAE No. 55																		
Turn signal indicator	1 cp	SAE No. 51																		
High beam indicator	1 cp	SAE No. 51																		



2. SERVICE DATA

• ENGINE

mm (in.)

ITEM		STANDARD	SERVICE LIMIT
Cylinder head warpage			0.1 (0.004)
Cylinder head height		72.75–72.85 (2.864–2.868)	72.60 (2.858)
Cylinder I.D.		53.00–53.01 (2.087–2.087)	53.10 (2.091)
Piston O.D.		52.97–52.99 (2.085–2.086)	52.87 (2.081)
Piston pin O.D.		13.994–14.000 (0.5509–0.5512)	13.90 (0.550)
Piston pin bore		14.002–14.008 (0.5513–0.5515)	14.05 (0.553)
Piston ring end gap	Top/second	0.15–0.55 (0.006–0.014)	0.5 (0.02)
	Oil	0.2–0.9 (0.0078–0.0354)	
Piston-to-piston ring clearance	Top	0.015–0.040 (0.0006–0.0016)	0.12 (0.005)
	Second	0.015–0.045 (0.0006–0.0018)	0.12 (0.005)
Valve stem O.D.	IN	5.450–5.465 (0.2146–0.2152)	5.42 (0.213)
	EX	5.430–5.445 (0.2138–0.2144)	5.40 (0.213)
Valve guide I.D.	IN	5.475–5.485 (0.2156–0.2159)	5.50 (0.217)
	EX	5.475–5.485 (0.2156–0.2159)	5.50 (0.217)
Valve spring free length	Outer	36.45 (1.435)	35.3 (1.390)
	Inner	29.90 (1.177)	29.0 (1.14)
Valve seat width	IN/EX	1.0 (0.04)	1.5 (0.06)
Clutch disc thickness		2.9–3.0 (1.11–1.18)	2.6 (0.10)
Clutch plate warpage		0–0.1 (0–0.004)	0.2 (0.008)
Clutch spring free length		37.80 (1.489)	34.7 (1.37)
Camshaft journal O.D.		19.967–19.980 (0.7861–0.7866)	19.92 (0.784)
Camshaft bushing I.D.		20.062–20.083 (0.7898–0.7907)	20.20 (0.797)
Crankshaft runout		0–0.03 (0–0.012)	0.10 (0.004)
Connecting rod small end I.D.		14.016–14.034 (0.5518–0.5525)	14.08 (0.554)
Connecting rod big end side clearance		0.10–0.40 (0.004–0.016)	0.60 (0.024)
Connecting rod big end radial clearance		0.004–0.012 (0.0002–0.0005)	0.05 (0.002)
Rocker arm shaft O.D.		9.978–9.987 (0.3928–0.3932)	9.17 (0.361)
Rocker arm I.D.		10.000–10.015 (0.3937–0.3943)	10.10 (0.398)
Oil pump	Inner-to-outer rotor clearance	0–0.15 (0–0.006)	0.20 (0.008)
	Rotor-to-cover clearance	0.03–0.11 (0.0016–0.004)	0.15 (0.006)
	Outer-rotor-to-body clearance	0.15–0.21 (0.006–0.008)	0.25 (0.010)
Shift fork I.D.		12.000–12.018 (0.4724–0.4731)	12.05 (0.474)
Shift fork guide shaft O.D.		11.976–11.994 (0.4715–0.4722)	11.96 (0.471)
Shift fork thickness (for end thickness)		4.93–5.00 (0.194–0.197)	4.70 (0.185)
Kickstarter pinion gear I.D.		18.020–18.041 (0.7094–0.7103)	18.07 (0.711)
Kickstarter spindle O.D.		17.959–17.980 (0.7070–0.7079)	17.93 (0.705)



● FRAME

mm(in.)

ITEM	STANDARD	SERVICE LIMIT
Front/rear axle runout		0.2 (0.008)
Front brake drum I.D.	140.0 (5.51)	141.0 (5.55)
Rear brake drum I.D.	130.0 (5.11)	131.0 (5.16)
Front/rear brake lining thickness	4.0 (0.16)	2.0 (0.08)
Front fork spring free length	504.6 (19.90)	495.0 (19.50)
Front fork slider I.D.	31.042–31.104 (1.2221–1.2246)	31.165 (1.2270)
Front fork tube O.D.	30.925–30.950 (1.2175–1.2185)	30.87 (1.2154)
Swing arm pivot bushing clearance	0.20–0.30 (0.008–0.012)	0.50 (0.020)
Rear shock absorber spring free length	182.1 (7.19)	173.5 (6.83)



3. TORQUE VALUES

ENGINE

TIGHTENING POINT	Q'TY	THREAD DIA (mm)	TORQUE kg-m (ft-lb.)
Crankshaft holder bolt nut	5	6	1.0-1.4 (7.2-10.1)
Cylinder head nut	8	8	1.6-2.0 (11.6-14.5)
Cylinder head cover bolt	2	6	0.8-1.2 (5.8-8.7)
AC generator rotor bolt	1	10	5.5-6.5 (39.8-47.0)
Drive gear bolt	1	16	4.5-6.0 (32.5-43.4)
Cam sprocket bolt	2	7	1.7-2.3 (12.3-16.6)

FRAME

TIGHTENING POINT	Q'TY	THREAD DIA (mm)	TORQUE kg-m (ft-lb.)
Steering stem nut	1	22	6.0-7.0 (43.4-50.6)
Fork top bridge bolt nut	2	7	0.9-1.3 (6.5-9.4)
Fork bottom bridge bolt nut	2	8	2.0-2.5 (14.5-18.1)
Handlebar holder bolt	4	8	1.8-3.0 (13.0-17.3)
Front axle nut	1	14	5.0-7.0 (36.2-50.6)
Rear axle nut	1	14	5.0-7.0 (36.2-50.6)
Engine hanger bolt nut	2	10	5.5-7.0 (39.8-50.8)
Engine hanger bolt nut	7	8	2.0-2.5 (14.5-18.1)
Rear brake torque link bolt/nut	2	8	2.0-2.5 (14.5-18.1)
Shock absorber nut	4	10	3.0-4.0 (21.7-28.9)
Foot rest bolt	4	8	2.0-2.5 (14.5-18.1)
Driven sprocket bolt/nut	4	10	5.5-6.5 (39.8-47.0)
Swing arm pivot bolt/nut	1	14	5.0-7.0 (36.2-50.6)
Front fender mounting bolt	4	6	1.0-1.4 (7.2-10.1)

Torque specifications listed above are important tightening points. Others should be tightened to standard torque values below.

STANDARD TORQUE VALUES

TYPE	TORQUE kg-m (ft-lb.)	TYPE	TORQUE kg-m (ft-lb.)
5 mm bolt, nut	0.45-0.6 (3.3-4.3)	5 mm screw	0.35-0.5 (2.5-3.6)
6 mm bolt, nut	0.8-1.2 (5.8-8.7)	6 mm screw	0.7-1.1 (5.1-8.0)
8 mm bolt, nut	1.8-2.5 (13.0-18.1)	6 mm flange bolt, nut	1.0-1.4 (7.2-10.1)
10 mm bolt, nut	3.0-4.0 (21.7-28.9)	8 mm flange bolt, nut	2.4-3.0 (17.4-21.7)
12 mm bolt, nut	5.0-6.0 (36.2-43.4)	10 mm flange bolt, nut	3.0-4.0 (21.7-28.9)



4. SPECIAL TOOLS

SPECIAL TOOLS

TOOL NAME	TOOL NO.	APPLICATION	REF. PAGE
6 mm Hollow wrench	07917-3230000	Front fork	11-16, 11-19
Clutch outer holder	07923-1070001	Clutch	8-4, 8-8, 9-6
Ball race driver	07944-1150001	Ball race	11-22
Shock absorber spring compressor	07959-3290001	Shock absorber	12-11, 12-12
Spring holder attachment	07967-1150100	Shock absorber	12-11, 12-12
Valve guide reamer	07984-0980000	Valve guide	6-11, 6-12
Piston ring compressor	07954-4190000	} Cylinder	7-11
Piston base	07958-2500000		7-11

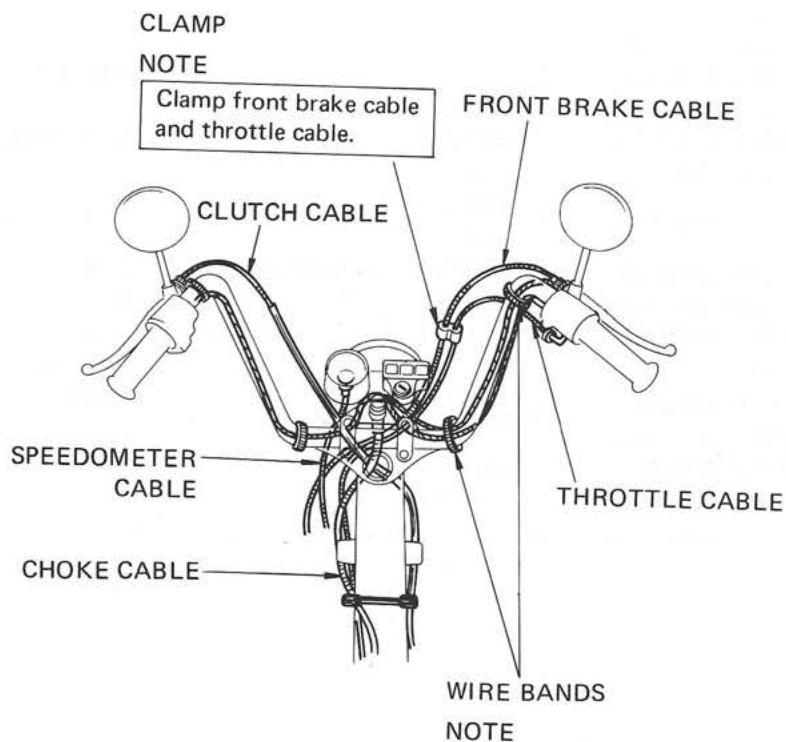
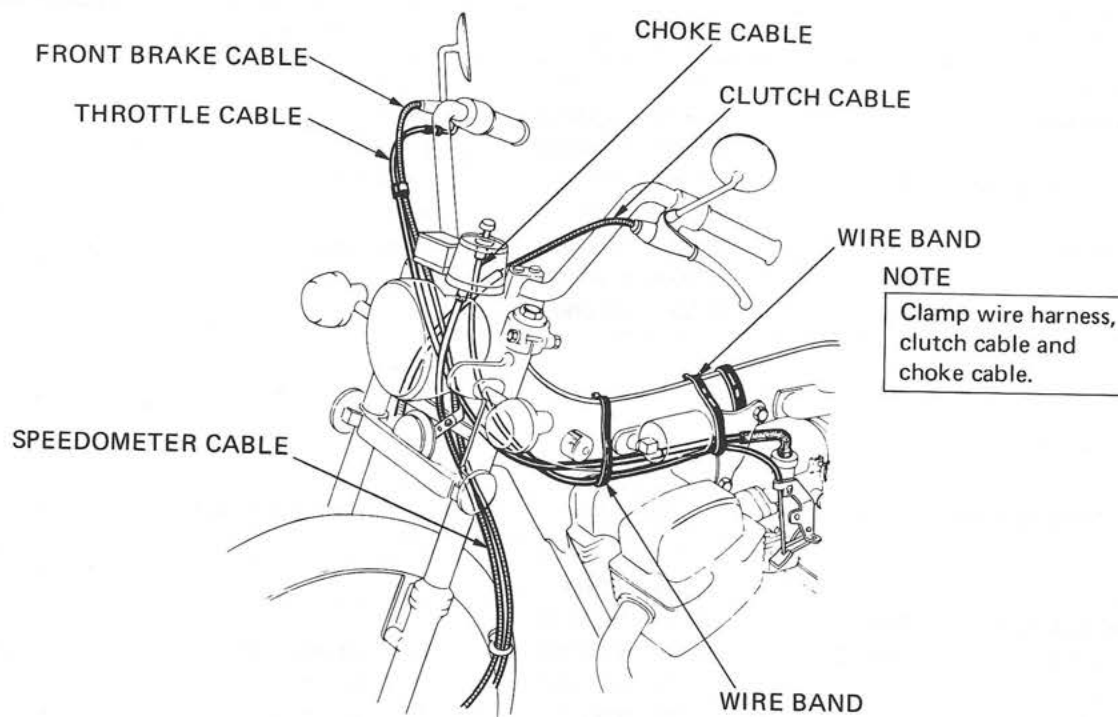
COMMON TOOLS

TOOL NAME	TOOL NO.	APPLICATION	REF. PAGE
Pin spanner	07702-0010000	Steering top thread	11-22, 11-23
Valve adjusting	07708-0030400	} Valve clearance adjustment	3-5
Valve adjusting wrench (8x9)	07708-0030100		3-5
Steering stem wrench (30x32)	07716-0020400	Steering stem nut	11-21, 11-23
Extension bar	07716-0020500	Steering stem nut	11-21, 11-23
Universal holder	07725-0010101	Drive sprocket	9-4
Rotor puller	07733-0020000	Rotor	9-7, 20-19
Valve guide driver/remover (5.5)	07742-0010100	} Valve guide	6-12
Valve guide cutter	07742-0030100		6-11, 6-12
Valve guide pilot (5.5)	07742-0030200		6-11, 6-12
Bearing driver (32x35)	07746-0010100	#6202	10-9
Bearing driver (42x47)	07746-0010300	#6302	11-10, 12-5
Bearing driver (52x55)	07746-0010400	#6006	10-9
Driver pilot (15)	07746-0040300	#6302	} Wheel bearing, crankcase bearing
Driver pilot (20)	07746-0040500	#6202	
Driver pilot (35)	07746-0040800	#6204	
Driver handle B	07746-0020100	#6006	
Driver handle A	07749-0010000		
Fork seal driver body	07747-0010100	} Front fork oil seal	11-19
Driver attachment (C)	07747-0010400		11-19
Valve spring compressor	07757-0010000	Valve	6-9, 6-17
Float gauge	07401-0010000	Float level	4-7

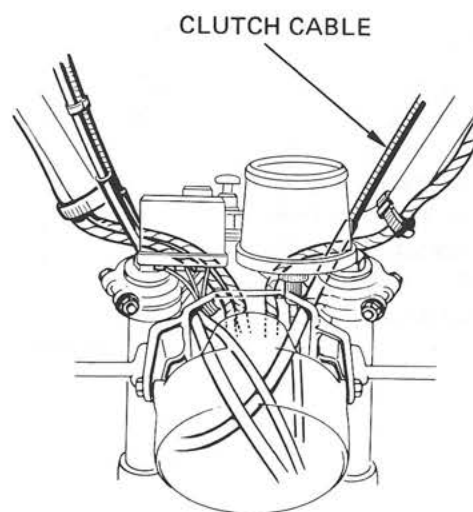


5. CABLE AND HARNESS ROUTING

• CABLES

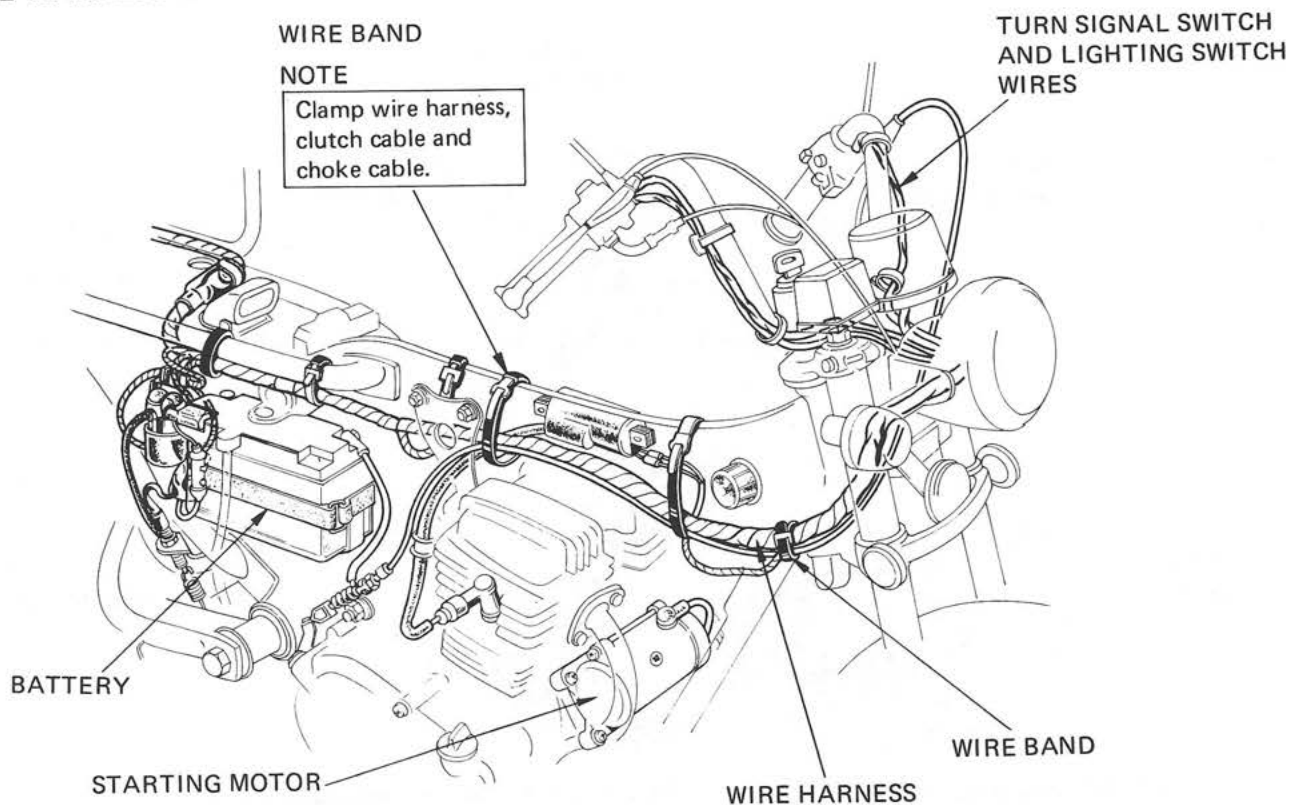


NOTE
Clamp stop switch wire and starting switch wire.



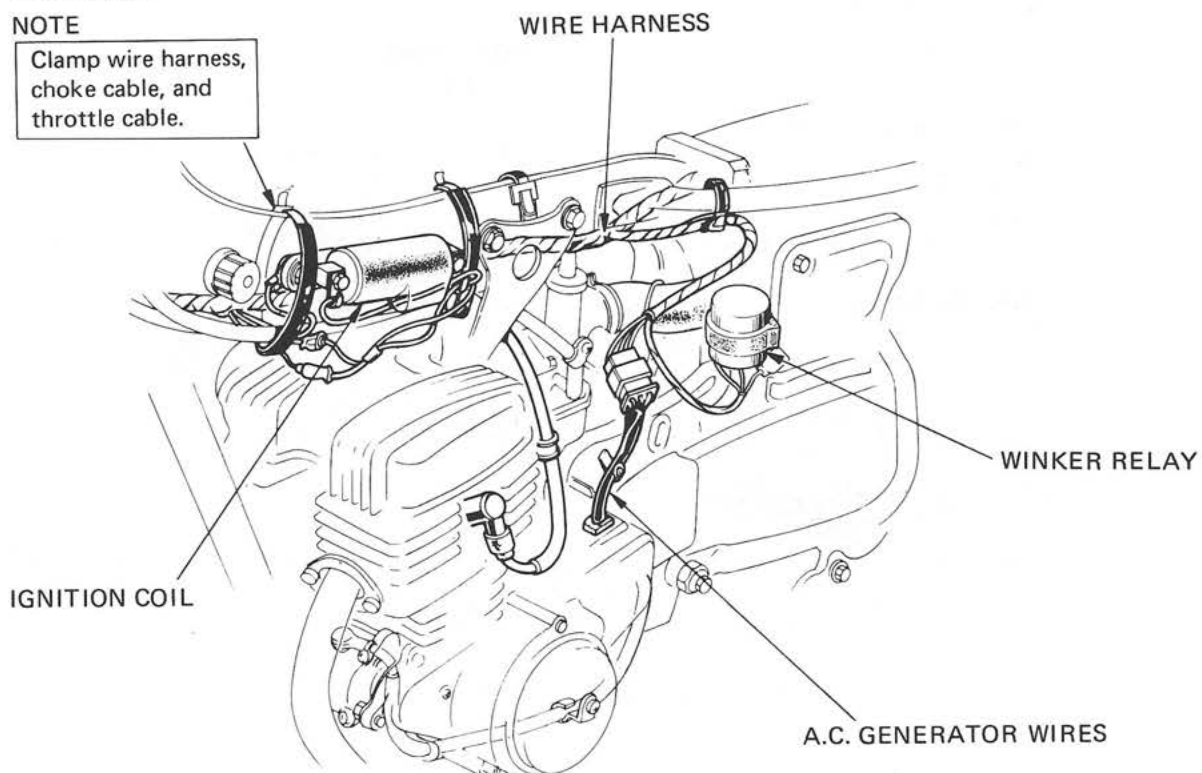


● WIRE HARNESSES



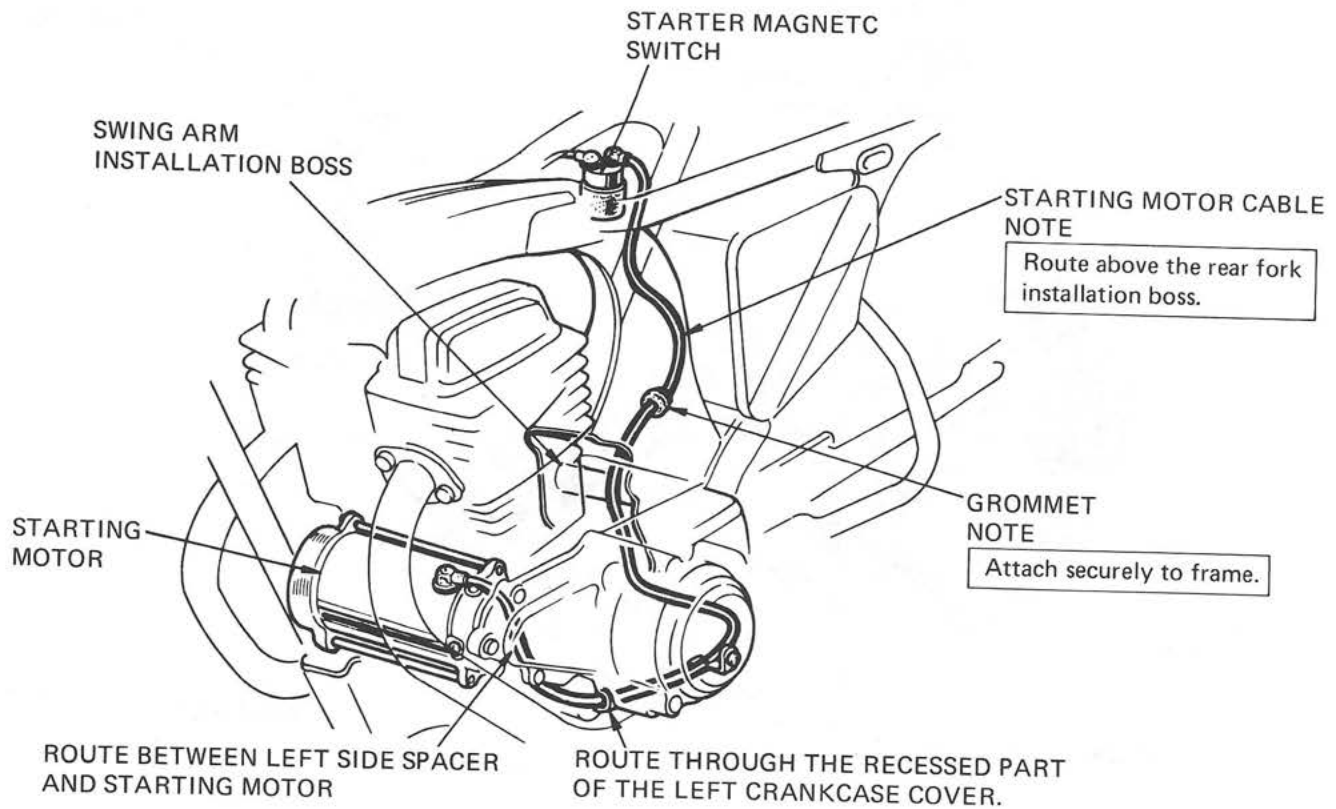
WIRE BAND
NOTE

Clamp wire harness,
choke cable, and
throttle cable.

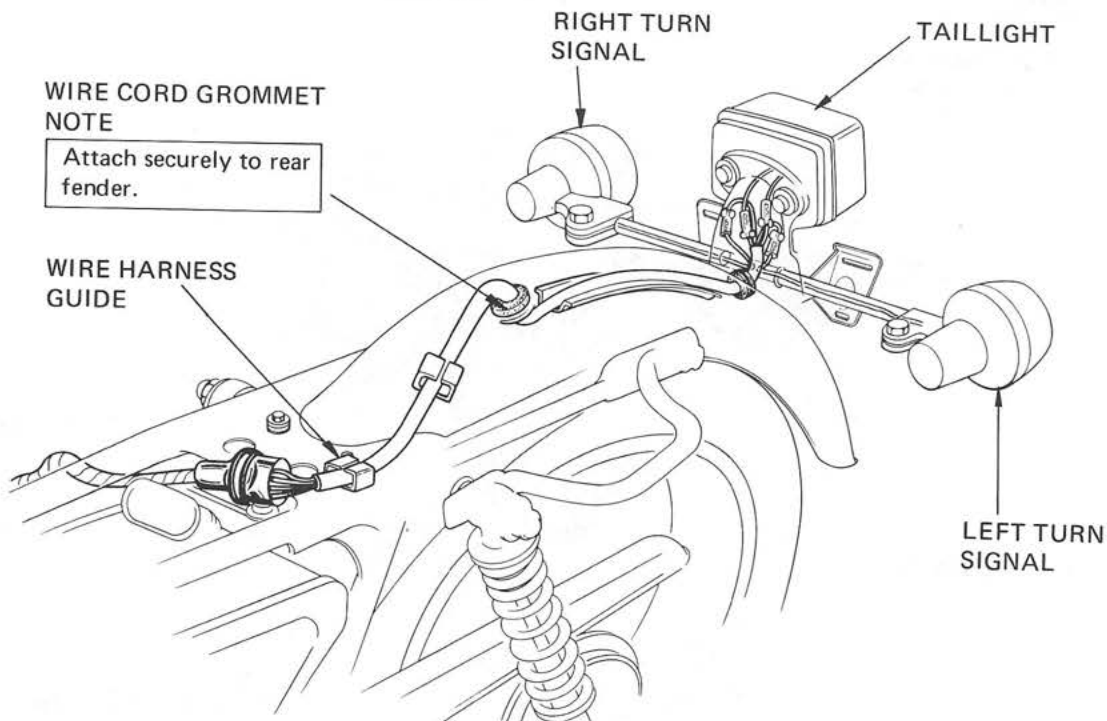




• STARTING MOTOR CABLE



• TURN SIGNAL AND TAILLIGHT WIRES





6. EMISSION CONTROL SYSTEM (USA only)

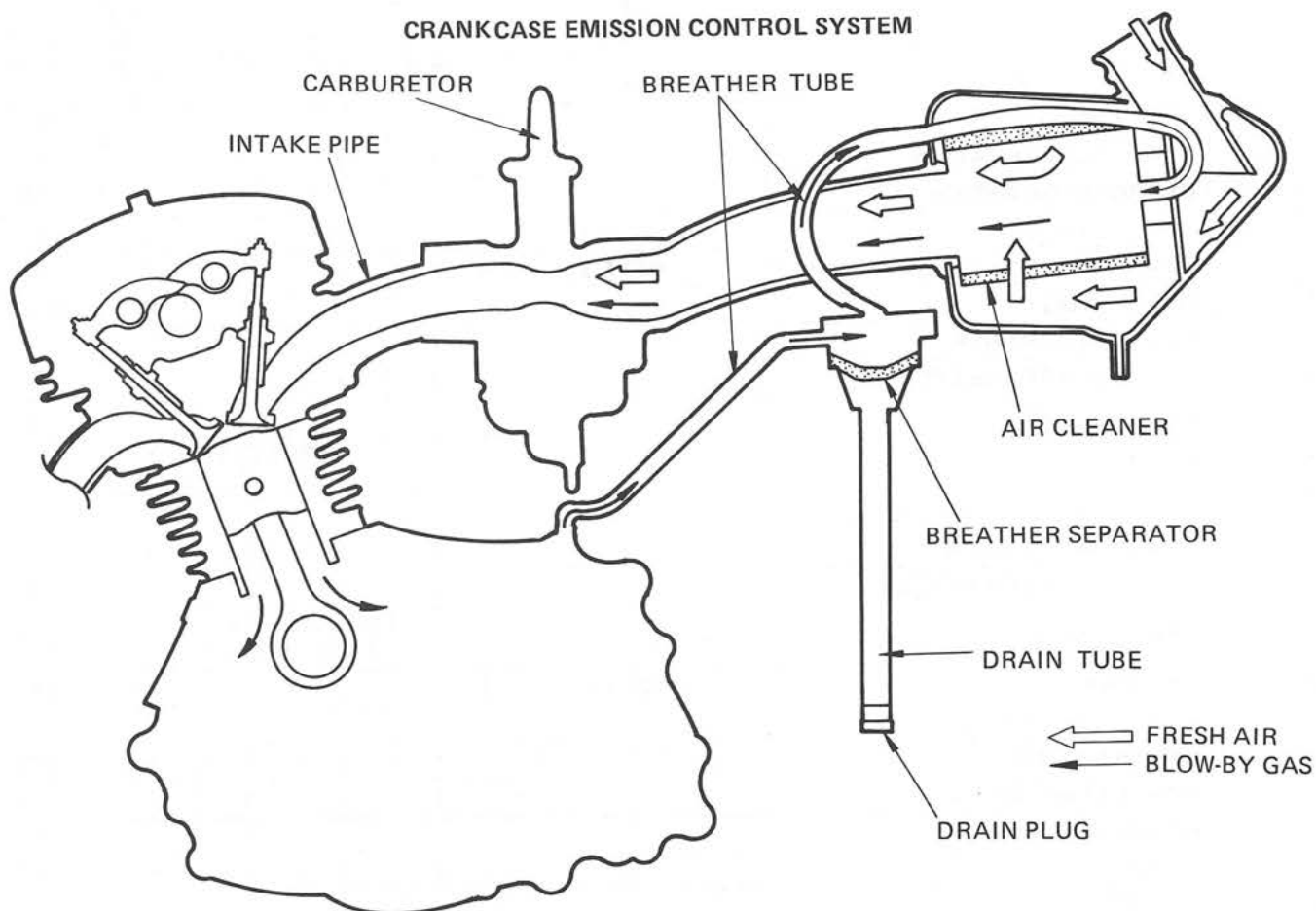
The CM200T is equipped with an Exhaust and Crankcase Control Systems. These systems are described below.

● EXHAUST EMISSION CONTROL SYSTEM

The exhaust emission control system is composed of lean carburetor settings. This system is separate from the crankcase emission control system. No adjustments should be made except idle speed with the throttle stop screw.

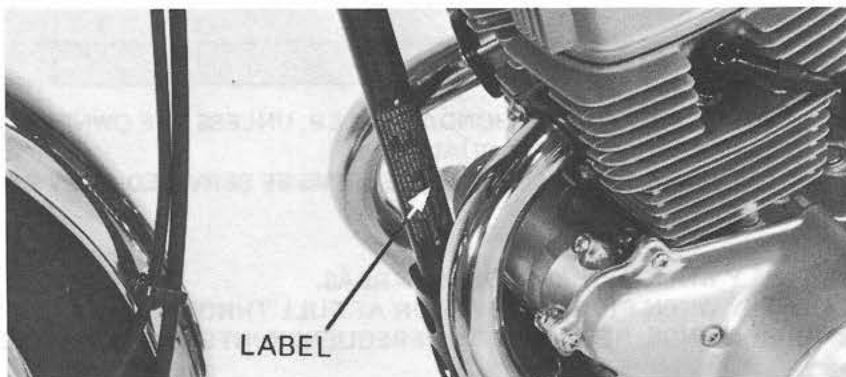
● CRANKCASE EMISSION CONTROL SYSTEM

The engine is equipped with a "Closed Crankcase System" to prevent crankcase emissions from entering the atmosphere. Blow-by gas is returned to the combustion chamber through the air cleaner and carburetor.



7. EMISSION CONTROL INFORMATION LABEL (USA only)

An Emission Information Label is located on the CM200T's front frame down tube.





8. MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION at each scheduled maintenance period.

- I: INSPECT AND CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY.
 C: CLEAN
 R: REPLACE
 A: ADJUST
 L: LUBRICATE

	ITEM	FREQUENCY	WHICHEVER COMES FIRST		ODOMETER READING (NOTE 3)				Refer to Page
			↓	→	600mi. (1,000km)	4,000mi. (6,400km)	8,000mi. (12,800km)	12,000mi. (19,200km)	
			EVERY						
EMISSION RELATED ITEMS	* FUEL LINE					I	I	I	3-3
	* THROTTLE OPERATION				I	I	I	I	3-7
	* CARBURETOR-CHOKE					I	I	I	3-8
	AIR CLEANER	NOTE 1				C	C	C	3-2
	CRANKCASE BREATHER (USA only)	NOTE 2				C	C	C	3-3
	SPARK PLUG					R	R	R	20-13
	* VALVE CLEARANCE				I	I	I	I	3-4
	* CONTACT BREAKER POINTS				I	I	R	I	3-5
	* IGNITION TIMING				I	I	I	I	3-5
	ENGINE OIL	YEAR			R	REPLACE EVERY 2,000mi. (3,200km)			2-2
	* ENGINE OIL FILTER SCREEN						C		2-2
	* CAM CHAIN TENSION				A	A	A	A	3-7
	* CARBURETOR-IDLE SPEED				I	I	I	I	3-8
NON-EMISSION RELATED ITEMS	DRIVE CHAIN					I, L EVERY 300mi. (500km)			3-10
	BATTERY	MONTH			I	I	I	I	3-11
	BRAKE SHOE WEAR					I	I	I	3-11
	BRAKE SYSTEM				I	I	I	I	3-12
	* BRAKE LIGHT SWITCH				I	I	I	I	3-14
	* HEADLIGHT AIM				I	I	I	I	3-15
	CLUTCH				I	I	I	I	3-15
	SIDE STAND					I	I	I	3-16
	* SUSPENSION				I	I	I	I	3-17
	* NUTS, BOLTS, FASTENERS				I	I	I	I	3-18
	** WHEELS/SPOKES				I	I	I	I	3-17
	** STEERING HEAD BEARING				I		I		3-18

* SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND SERVICE DATA AND IS MECHANICALLY QUALIFIED.

** IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED **ONLY** BY AN AUTHORIZED HONDA DEALER.

NOTE:

- SERVICE MORE FREQUENTLY WHEN RIDING IN DUSTY AREAS.
- SERVICE MORE FREQUENTLY WHEN RIDING IN RAIN OR AT FULL THROTTLE (USA ONLY).
- FOR HIGHER ODOMETER READINGS, REPEAT AT THE FREQUENCY INTERVAL ESTABLISHED HERE.



9. INSPECTION AND ADJUSTMENT

NOTE:

Use the "T" mark for CM200T valve and cam chain adjustment (Pages 3-4 and 3-7). The "T" mark supersedes the CM185T "T₁" mark.

SPARK PLUG

• RECOMMENDED SPARK PLUG

USA model

Usage Manu- facturer	For cold climate (below 5°C 41°F)	Standard	For extended high speed riding
ND	U20FS	U22FS	U24FB
NGK	C6H	C7HS	C9H

CANADA model

ND: U22FSR-L NGK: CR7HS

Manufacturer

ND: Nippondenso Co., Ltd.

NGK: NGK Spark Plug Co., Ltd.

• SPARK PLUG REPLACEMENT

Clean any dirt from around the base of the spark plugs.

Disconnect the spark plug caps. Remove and discard the used spark plugs.

Check the electrode gap of the new spark plugs, using a wire-type feeler gauge. Adjust by carefully bending the side electrode.

**SPARK PLUG GAP: 0.6–0.7 mm
(0.024–0.028 in.)**

With washers attached, thread the new spark plugs in by hand to prevent crossthreading. After hand tightening, tighten an additional 1/2 turn with a spark plug wrench to compress the washers. Install the spark plug caps.

IGNITION ADVANCE TIMING

NOTE

Full advance (32°–35° BTDC) is reached at 2,800 rpm.

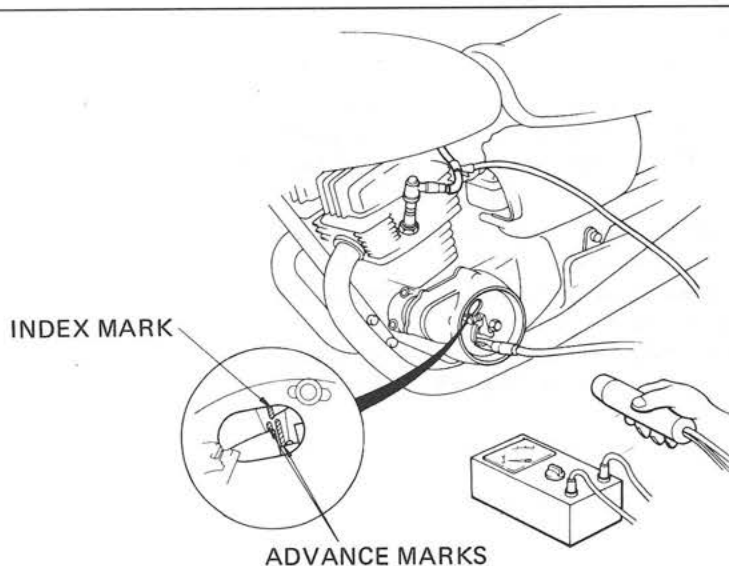
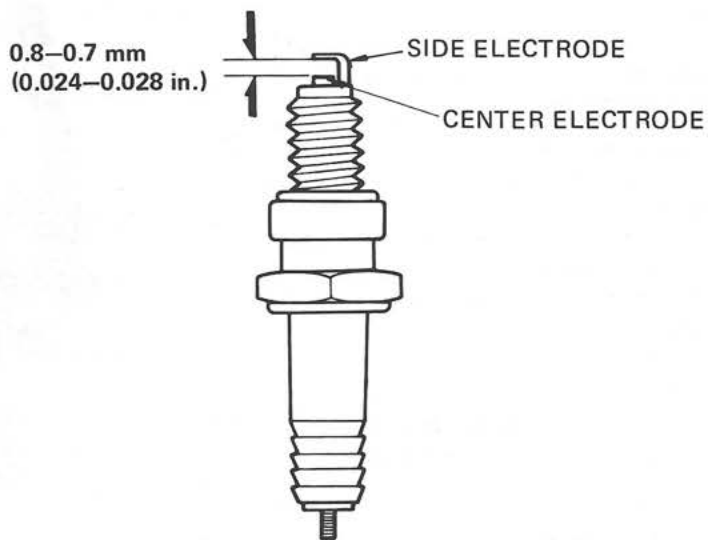
Connect a tachometer and stroboscopic timing light.

Check ignition advance timing while running the engine above 2,800 rpm. Timing is correct if the index mark is aligned between the two full advance marks.

If ignition timing adjustment is required, refer to page 3-5 of the base manual.

CONTROL CABLE LUBRICATION

Periodically, disconnect the throttle, clutch and brake cables at their upper ends. Thoroughly lubricate the cables and their pivot points with a commercially available cable lubricant.





10. CARBURETOR

• SPECIFICATIONS

ITEM	DESCRIPTION
Venturi dia.	22 mm (0.87 in)
Identification No.	PB23A
Float level	12.5 mm (0.49 in)
Idle speed	1,200 $\pm$ 100 rpm
Throttle grip free play	2–6 mm (1/8–1/4 in)
Main jet	#105

• PILOT SCREW REMOVAL/INSTALLATION

NOTE

- A pilot screw limiter cap is used to prevent tempering. The float chamber must be removed to remove the pilot screw. (USA only)
- The pilot screw is factory pre-set and should not be removed unless the carburetor is overhauled.

Remove the carburetor.

Remove the float chamber screws. Remove the float chamber.

Turn the pilot screw in and count the exact number of turns before it seats lightly. Make a note of this as a reference when reinstalling the pilot screw.

CAUTION

Damage to the pilot screw and seat will occur if the screw is tightened against the seat.

Remove the pilot screw.

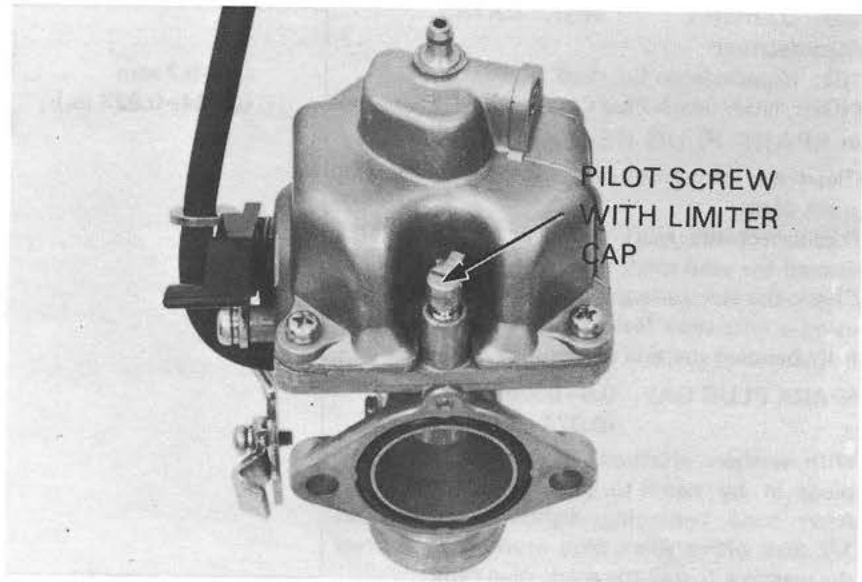
Inspect the pilot screw and replace if worn or damaged.

CAUTION

Any forcible attempt to remove the pilot screw limiter cap will break the screw.

Reinstall the pilot screw and turn it to the original position, as noted during removal. If a new pilot screw is installed, turn the screw 2 turns out from a lightly seated position, install the float chamber, then follow the adjustment procedure described on page 4-8 before installing the limiter cap.

Install the carburetor. (Page 4-7)

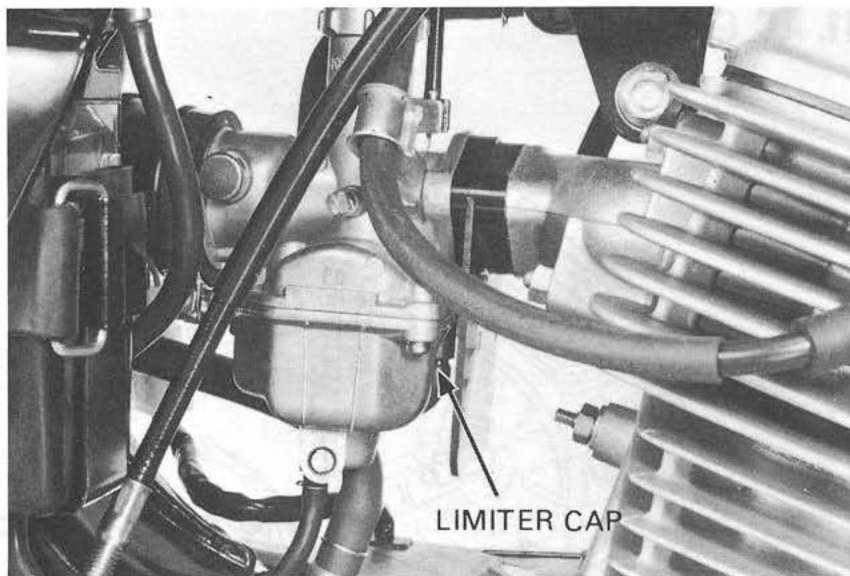




● **LIMITER CAP INSTALLATION**

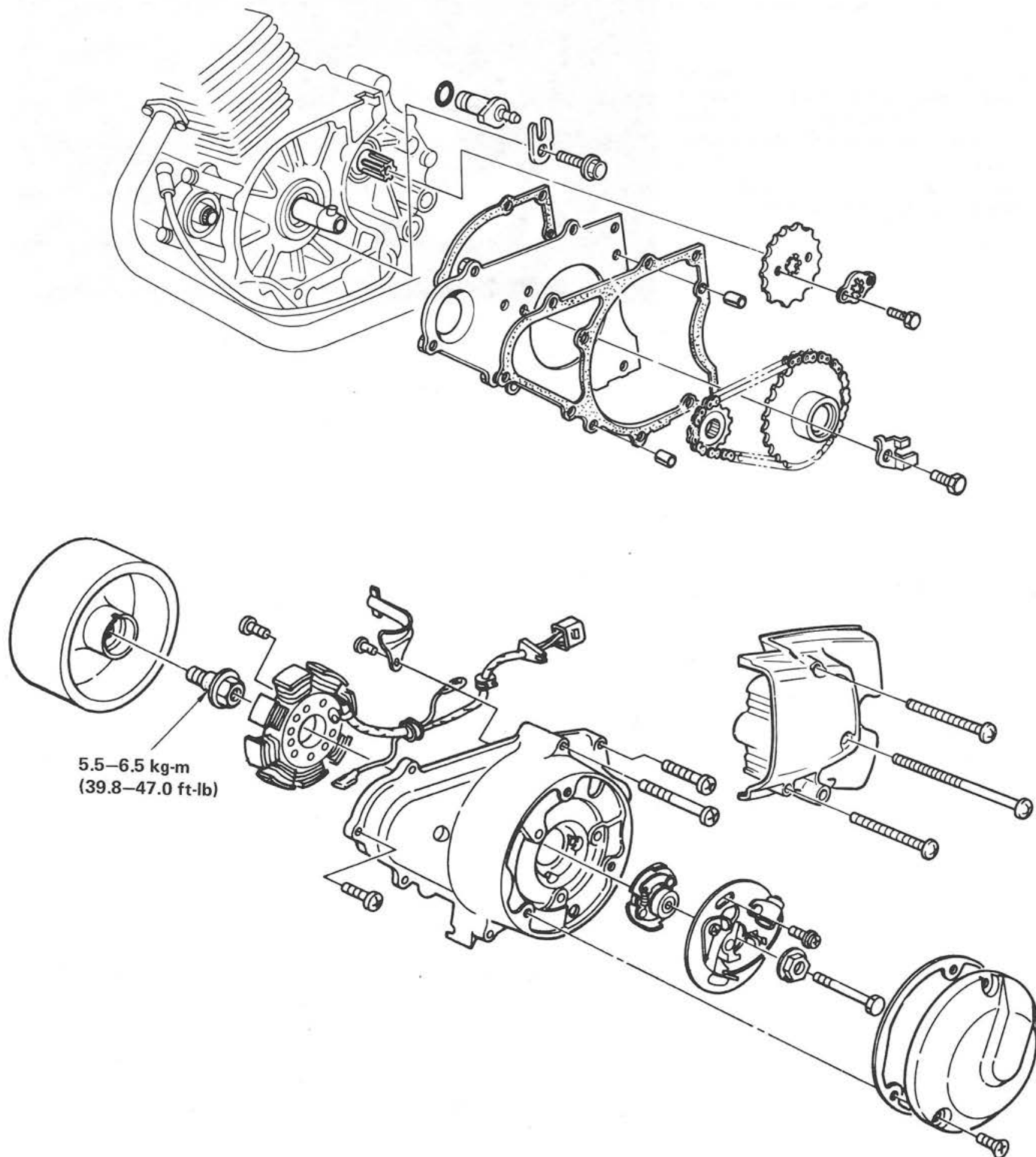
The pilot screw limiter cap is required to comply with USEPA regulations. If the pilot screw is replaced, a new limiter cap must be installed after pilot screw adjustment is completed. The limiter cap restricts adjustment to 7/8 of a turn.

After adjustment, cement the limiter cap over the pilot screw, using LOCTITE #601 or equivalent. The limiter cap should be placed against its stop, preventing further adjustment that would enrich the fuel mixture (limiter cap position permits clockwise rotation and prevents counterclockwise rotation).





11. A.C. GENERATOR





CONTACT BREAKER DISASSEMBLY

Remove the point cover and gasket.
Disconnect the breaker point wire.
Remove the spark advancer bolt.
Remove the base plate attaching screws.
Disconnect the condenser wire from the breaker points.
Remove the breaker point attaching screw.
Remove the oil felt.

● CONTACT BREAKER POINT ASSEMBLY

The assembly sequence is essentially the reverse of disassembly.

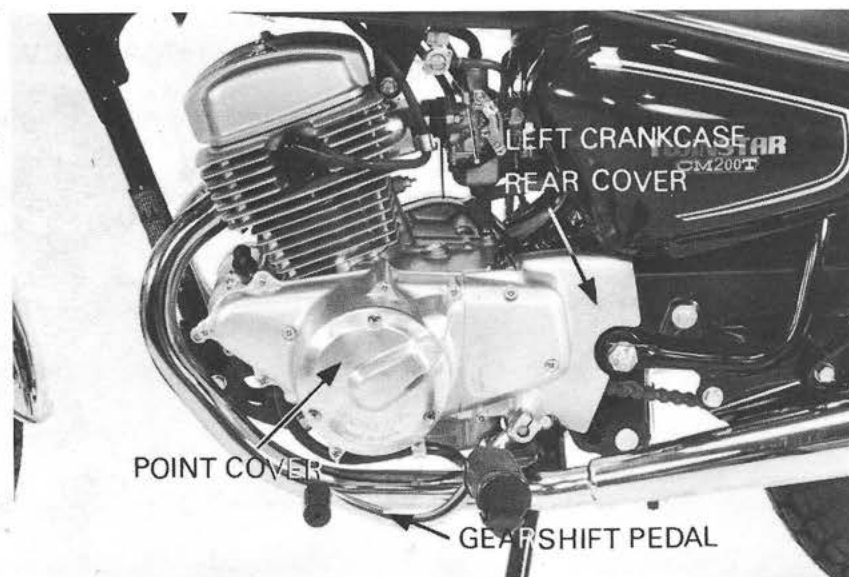
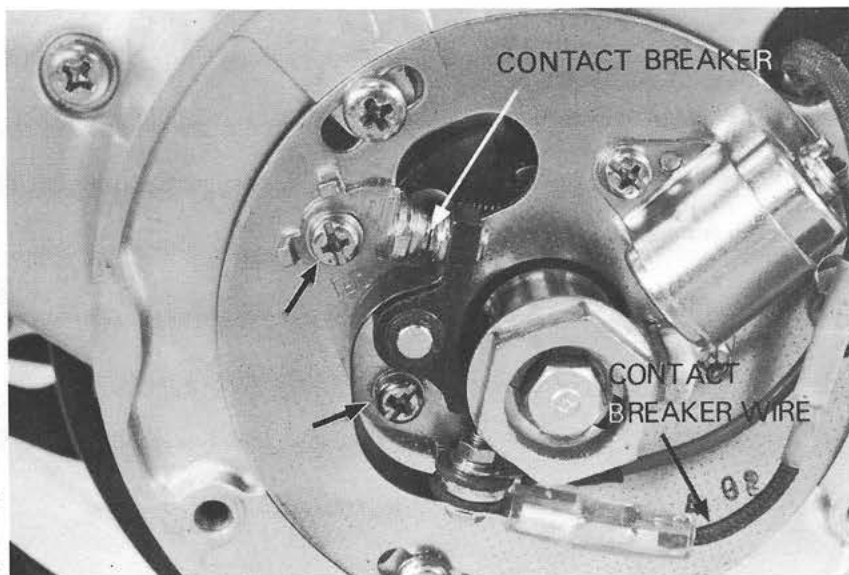
NOTE

Moisten the felt with a small amount of oil.

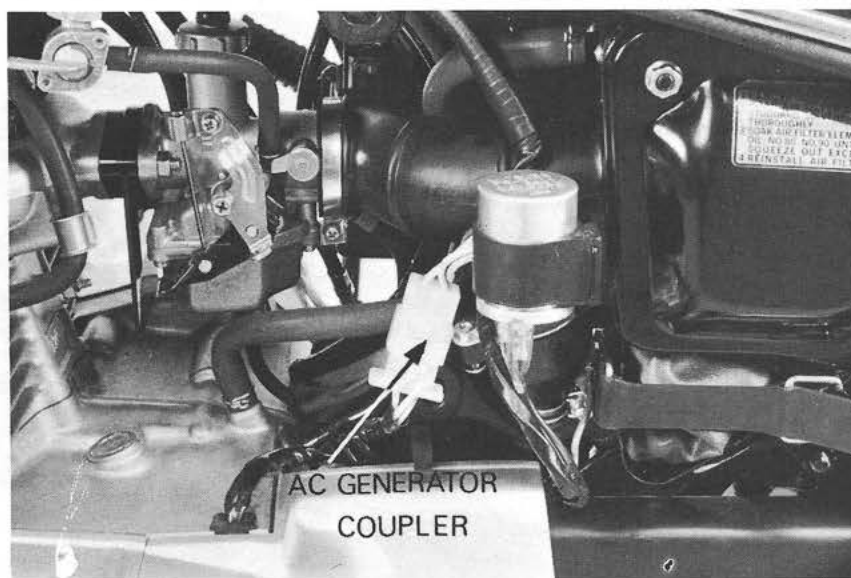
After reassembly, perform point gap and ignition timing inspection and adjustment.

A.C. GENERATOR ROTOR REMOVAL

Remove the gear shift pedal and remove the left crankcase rear cover.
Remove the point cover.



Disconnect the A.C. generator coupler.
Remove the left crankcase cover.





Drain the engine oil and remove the point cover and gasket.

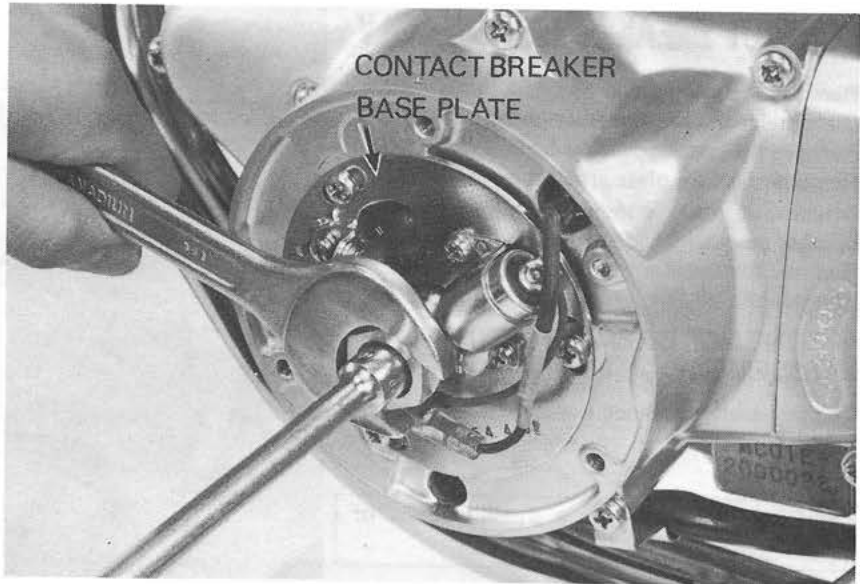
Remove the spark advancer bolt.

Remove the base plate attaching screws.

Disconnect the breaker point wire.

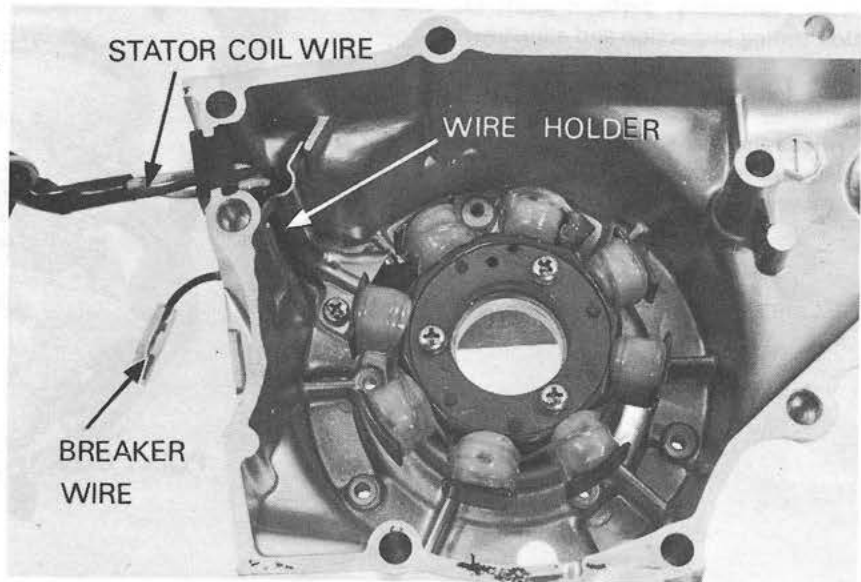
Remove the base plate and remove the spark advancer.

Remove the left crankcase cover.



• STATOR COIL INSTALLATION

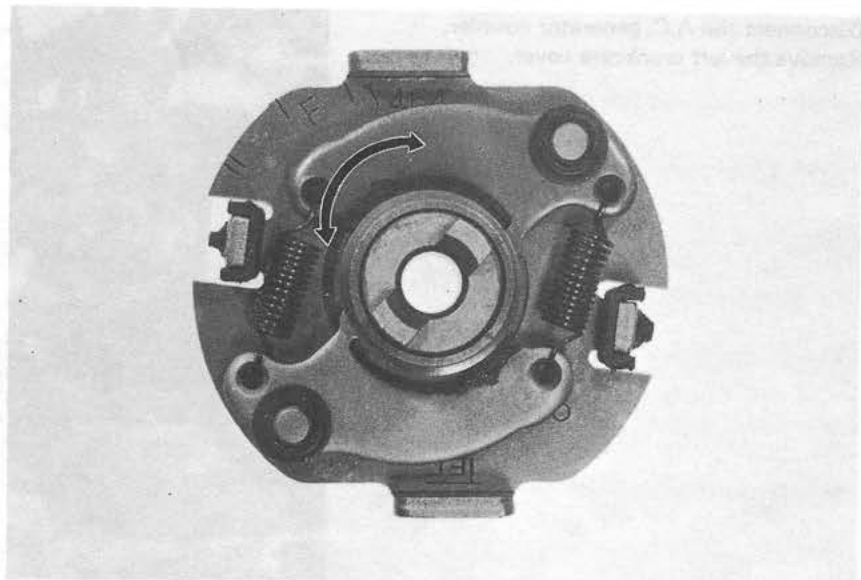
Route the wires as shown and install the wire holder.



• SPARK ADVANCER INSPECTION

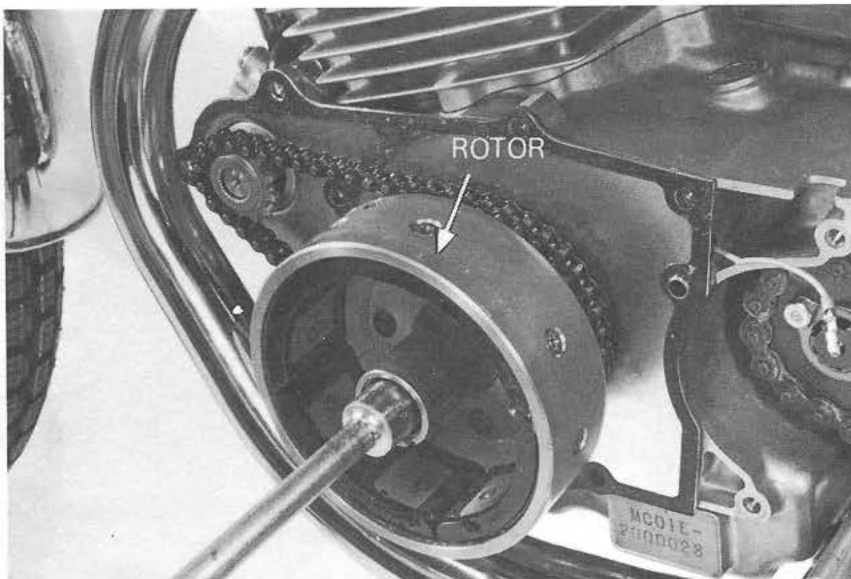
Check the advancer for smooth operation and wear or damage.

Spring pressure should return the cam to the static position.

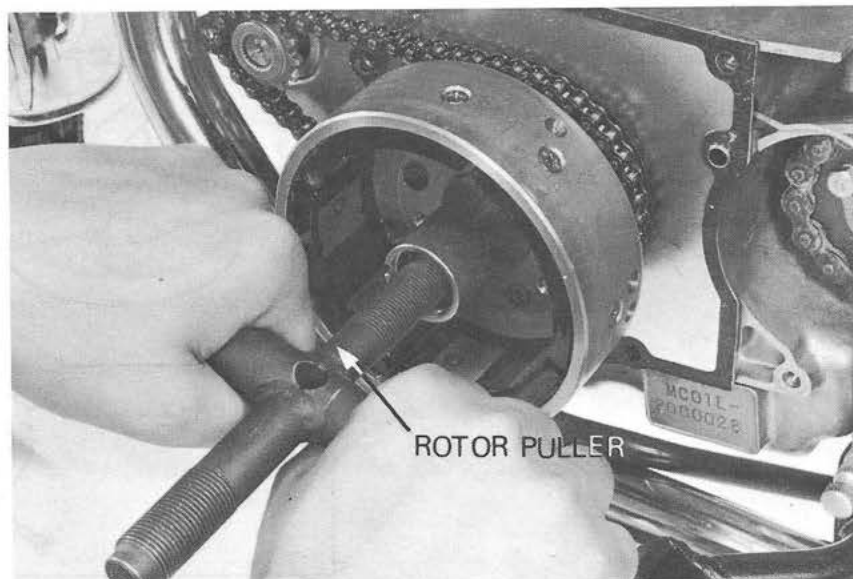




Block the clutch to prevent it from turning with a clutch outer holder (Tool No. 07923-1070001) and remove the rotor bolt.



Remove the rotor with a rotor puller.

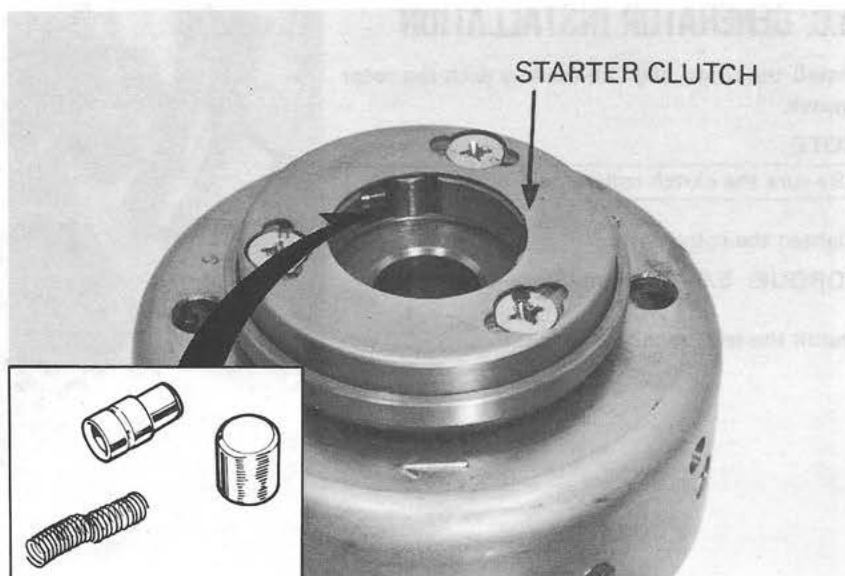


● **STARTER CLUTCH DISASSEMBLY**

Depress the spring caps with a screwdriver to remove the clutch.

Remove the spring caps and roller springs.

Check the rollers, springs and caps for damage or wear.





Remove the three clutch outer attaching screws with a impact driver.
Remove the starter clutch outer and side plate.



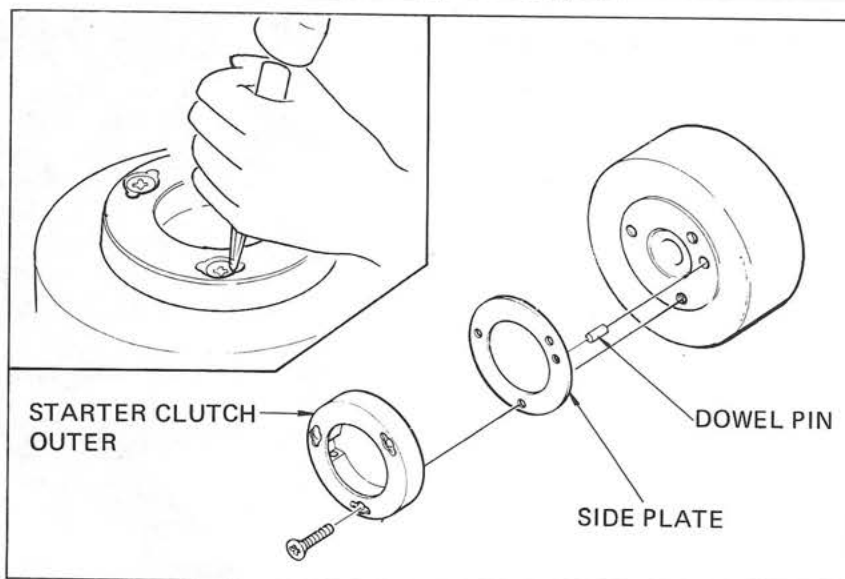
• STARTER CLUTCH ASSEMBLY

Install the dowel pin and side plate.

NOTE

Align the dowel pin with the side plate pin hole.

Install the clutch outer and tighten the screws. Stick the screw head to the clutch outer with a punch.



A.C. GENERATOR INSTALLATION

Install the rotor, aligning the key with the rotor groove.

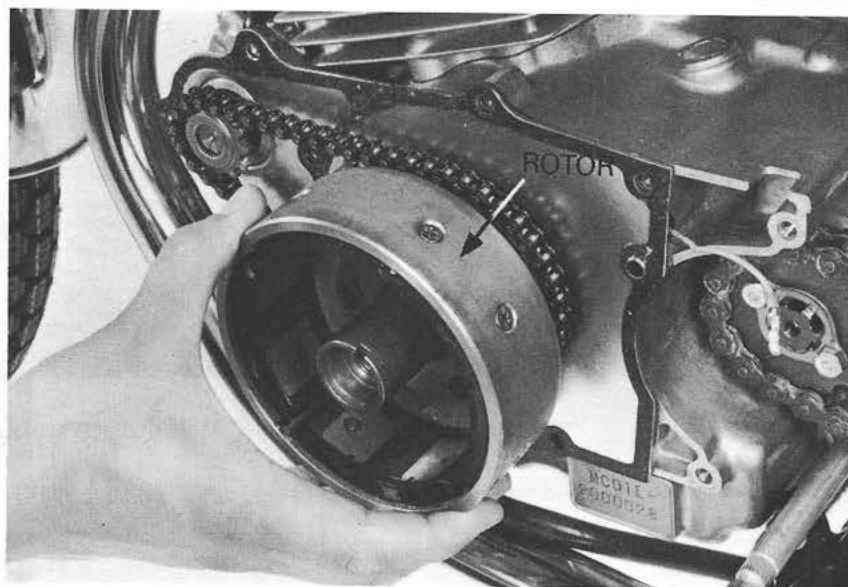
NOTE

Be sure the clutch rollers stay in place.

Tighten the rotor bolt.

TORQUE: 5.5–6.5 kg-m (39.8–47.0 ft-lb.)

Install the left crankcase cover.



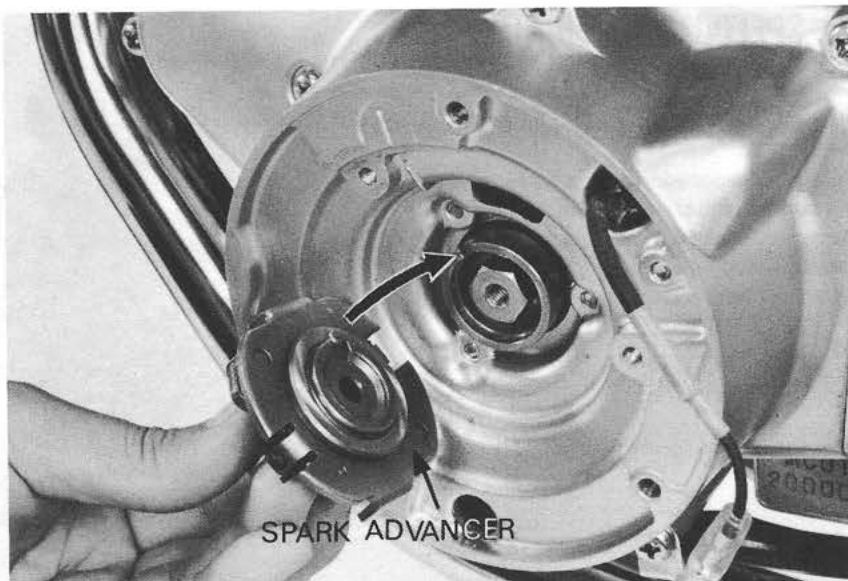


Install the spark advancer.

NOTE

Align the knock pin on the spark advancer with the groove on the rotor.

Install the contact point base plate.
Tighten the spark advancer bolt.
Install the point cover.

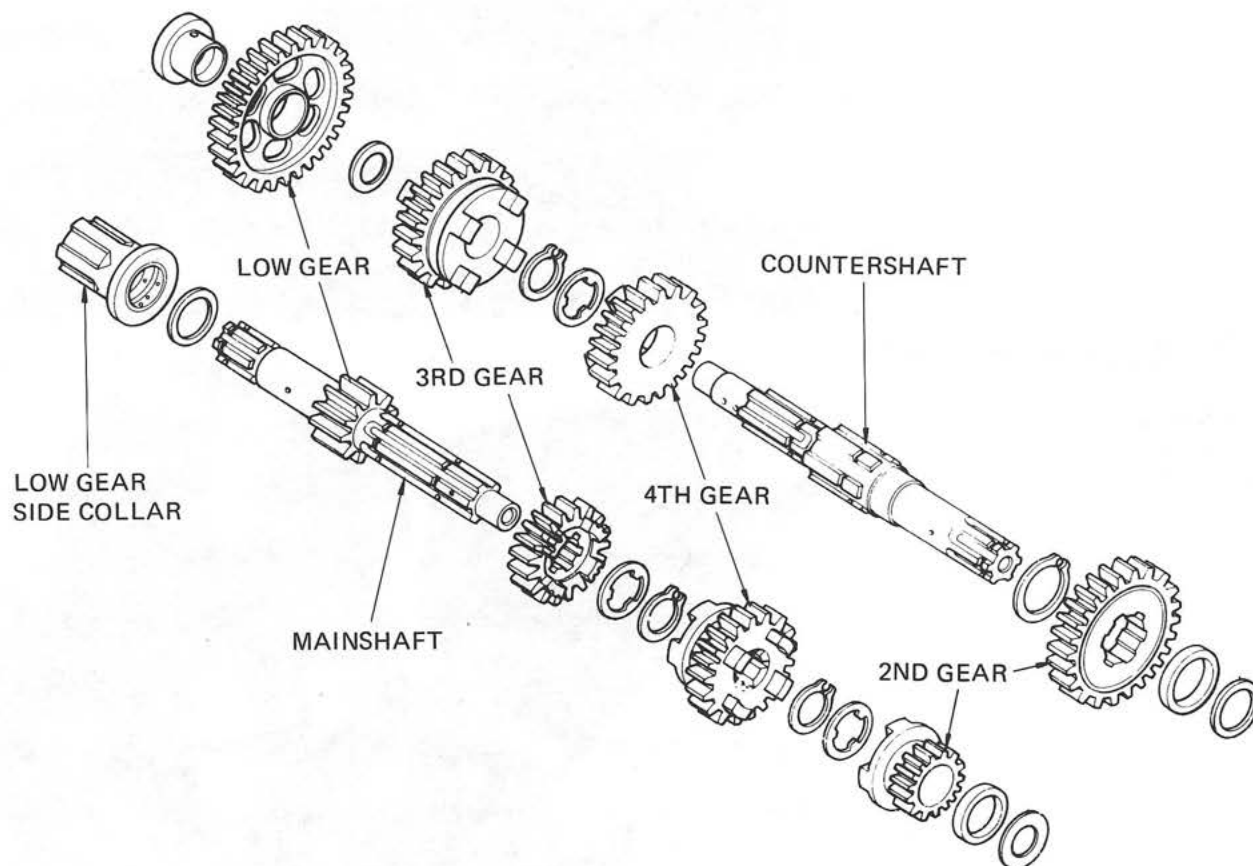


12. TRANSMISSION

● TRANSMISSION GEAR ASSEMBLY

NOTE

Apply clean engine oil to all parts before assembly.





13. SPEEDOMETER/IGNITION SWITCH/HANDLEBAR

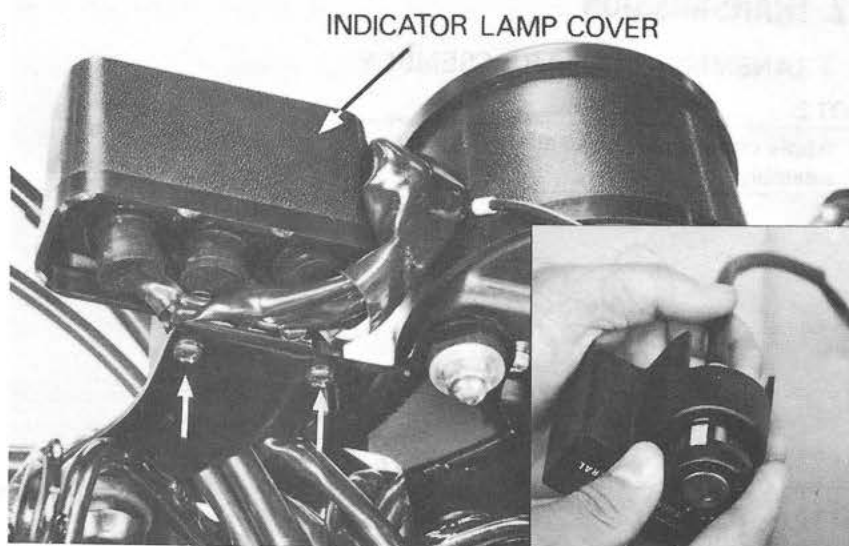
● SPEEDOMETER REMOVAL

Remove the speedometer attaching nuts.
Disconnect the speedometer cable.
Remove the headlight and disconnect the speedometer wire.
Remove the speedometer.



● IGNITION SWITCH REMOVAL

Remove the headlight (Page 11-4) and pull off the ignition switch coupler.
Remove the indicator lamp cover and remove the ignition switch.



● METER AND INDICATOR BULBS REPLACEMENT

Remove the headlight.
Replace the bulbs.
Install the headlight.





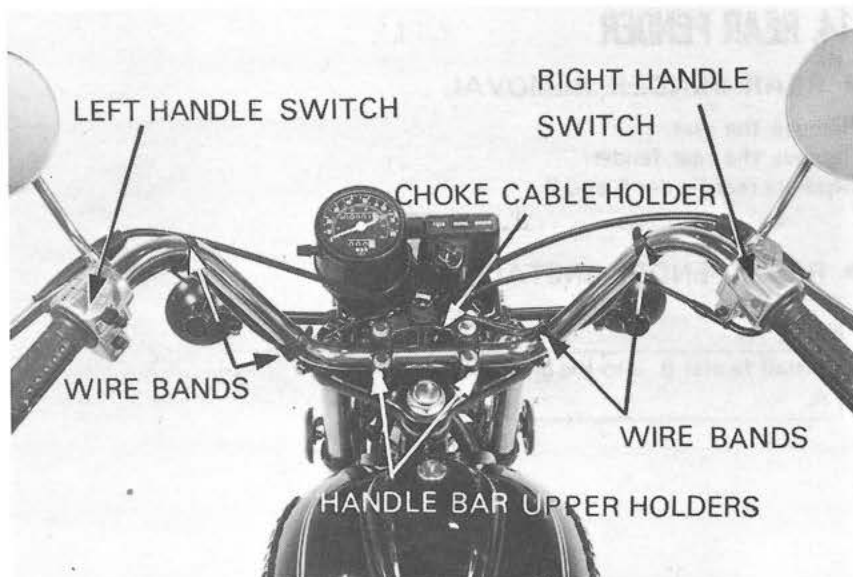
● **HANDLE BAR REMOVAL**

Loosen the two screws at the left handle switch and remove the wire bands.

Remove the throttle grip and switch with the front brake cable and throttle cable.

Remove the choke cable holder and handle bar holders.

Remove the handle bar.

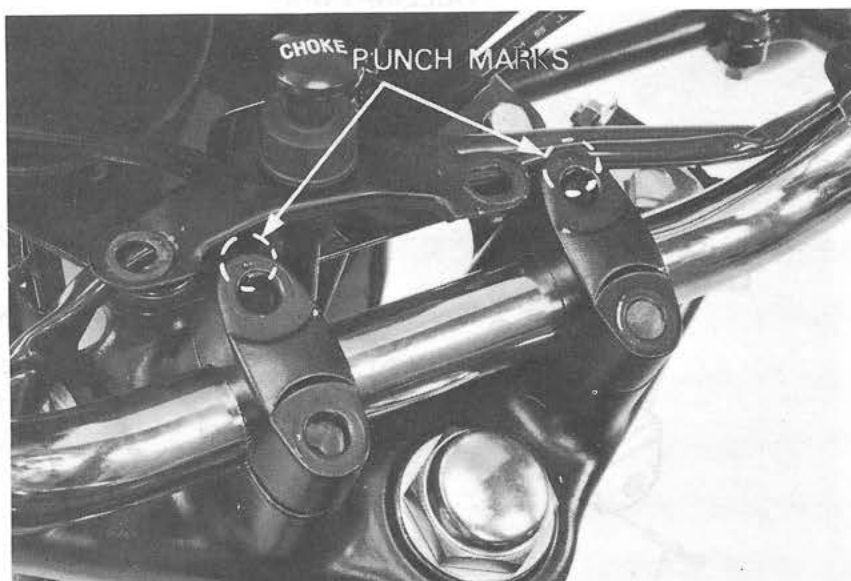


● **HANDLE BAR INSTALLATION**

Place the handle bar on the lower holder.

Install the upper holders with the punch mark facing the front.

Install the choke cable holder.



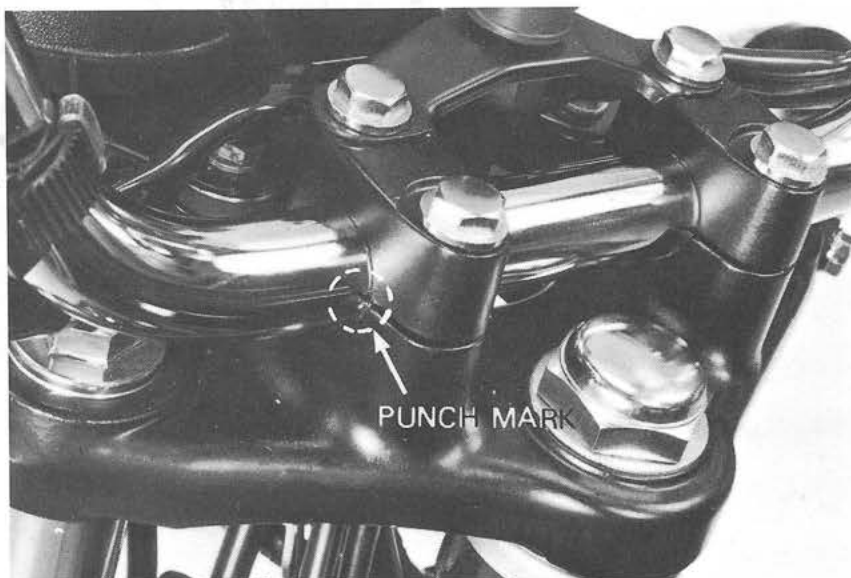
Tighten the handle bar holder bolts.

NOTE

Tighten the forward bolts first.

Align the punch marks on the handle bar with the top face of the lower holder.

TORQUE: 1.8–3.0 kg-m (13.0–21.7 ft-lb.)





14. REAR FENDER

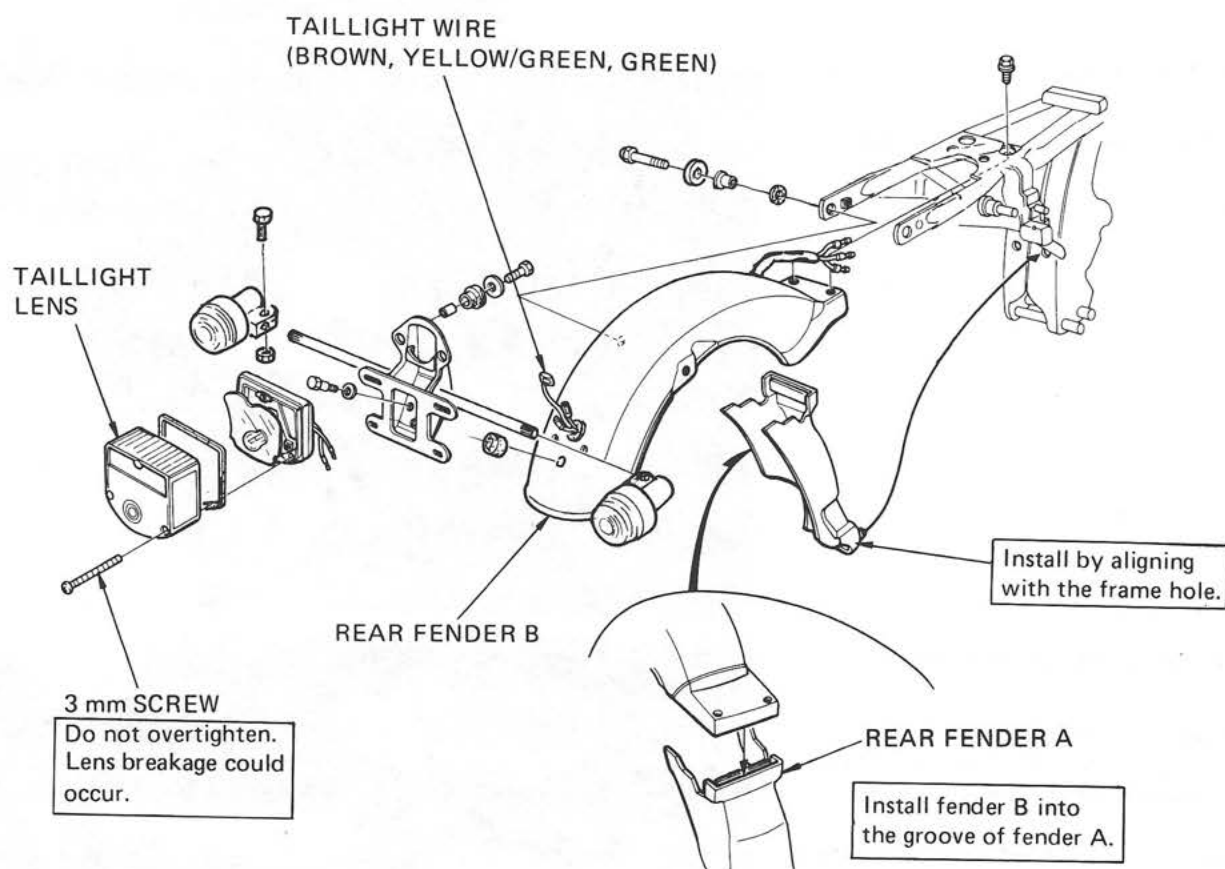
• REAR FENDER REMOVAL

Remove the seat.
Remove the rear fender.
Separate rear fender A and B.

• REAR FENDER INSTALLATION

NOTE

Install fender B into the groove of fender A.





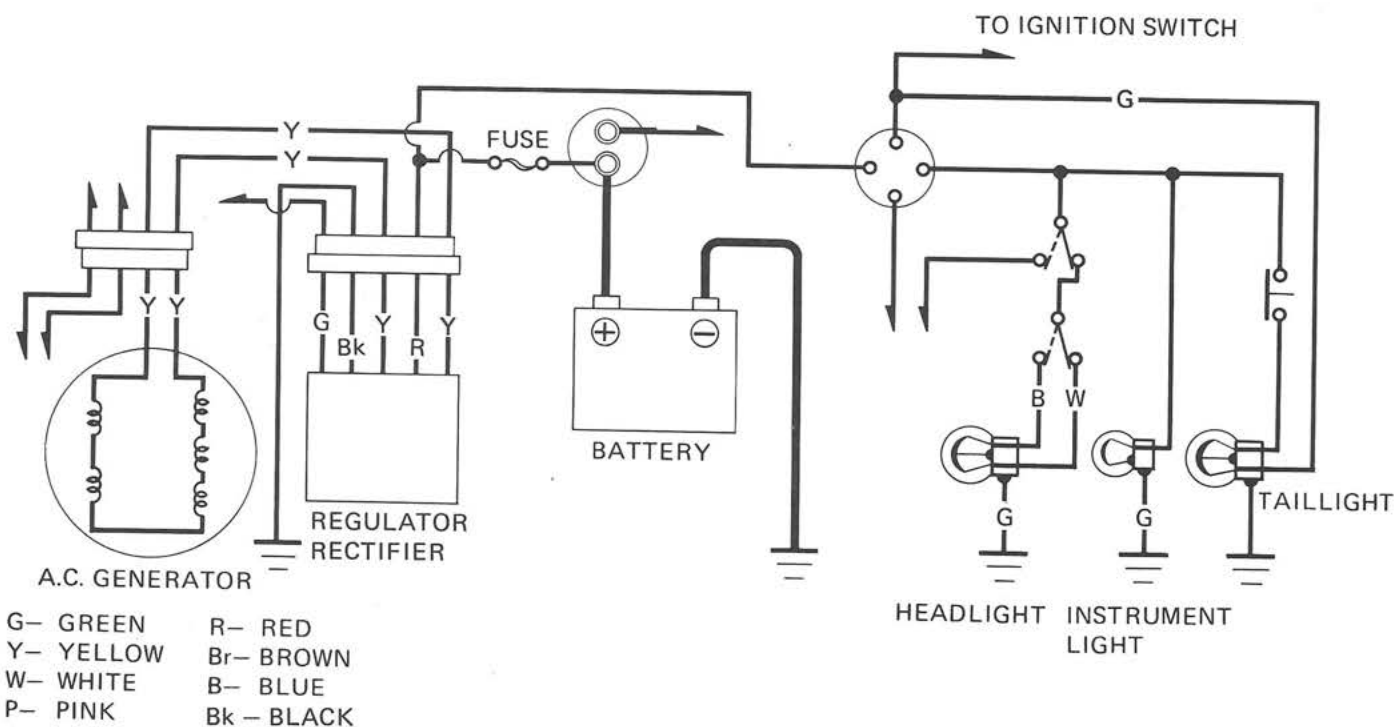
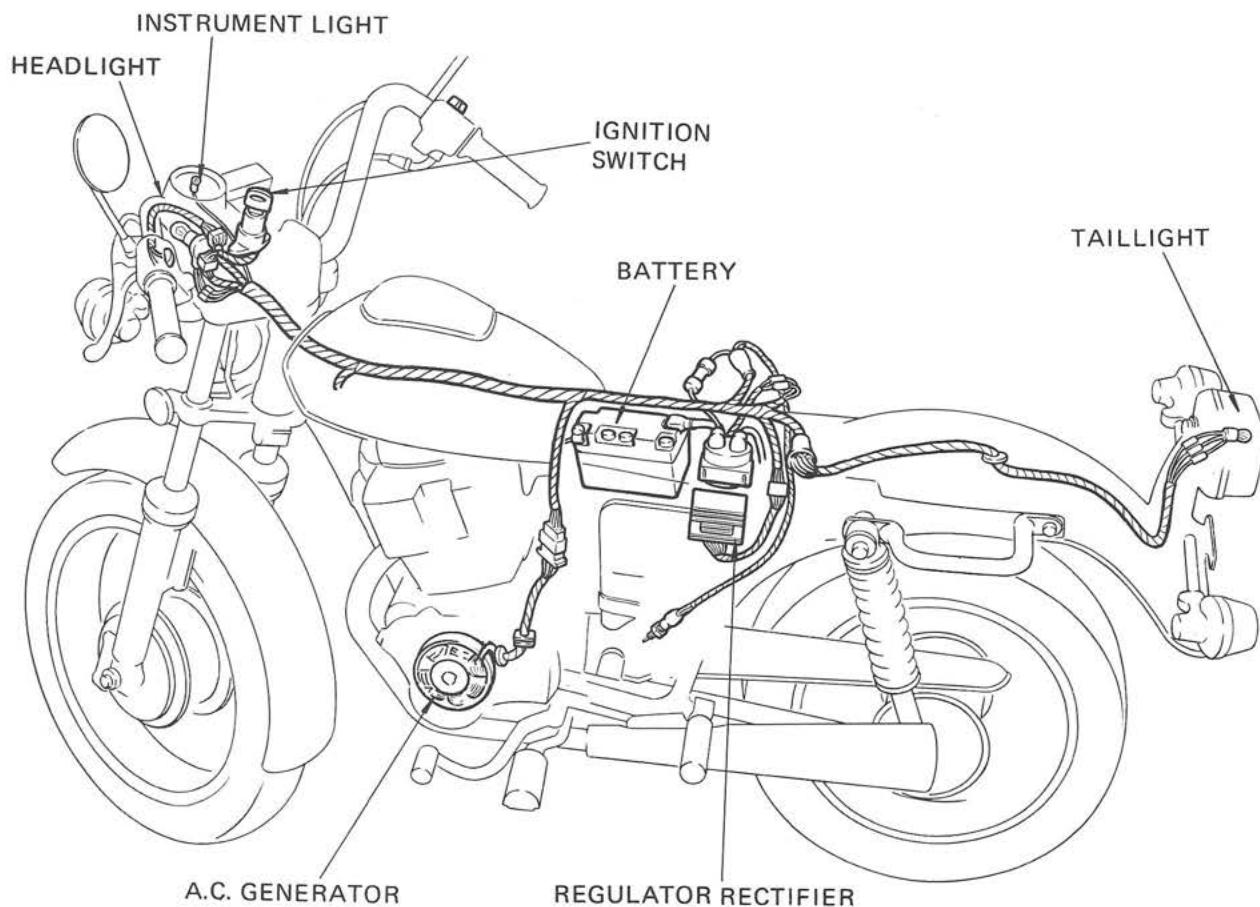
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CM 200T

'80 CM200T ADDENDUM

MEMO



15. BATTERY/CHARGING SYSTEM





● SPECIFICATIONS

Charging: Starts 1,450 rpm
5,000 rpm 5.0A min. 7.9V (at battery)
10,000 rpm 8.5A max. 8.1V (at battery)

Rectifier: Regulator rectifier

● STATOR COIL INSPECTION

NOTE

It is not necessary to remove the stator to make this test.

Disconnect the A.C. generator coupler.

Continuity test:

There should be continuity between the two yellow wire leads.

Insulation test:

There should be no continuity between each yellow wire lead and ground.

YELLOW (CHARGE COIL)

LIGHT GREEN/RED
(NEUTRAL SWITCH)

BLUE
(CONTACT BREAKER)



● REGULATOR/RECTIFIER TEST

Disconnect the rectifier coupler.

Check the resistance between terminals as shown in the chart.

Replace the rectifier if the readings do not fall within the limits.

NOTE

- For accurate testing, it is necessary to use a specified electric tester. Use of an improper tester or measurements in improper range may give a false readings.
- Use SANWA ELECTRIC TESTER (P/N 07308-0020000 SANWA) or KOWA ELECTRIC TESTER (TH-5H).

UPPER: SANWA (SP-10D) x k Ω
LOWER: KOWA (TH-5H) x 100 Ω

	⊕	YELLOW	YELLOW	GREEN	RED	BLACK
⊖						
YELLOW			∞	∞	0.2-10 1-20	∞
YELLOW		∞		∞	0.2-10 1-20	∞
GREEN		0.2-10 1-20	0.2-20 1-20		0.5-20 10-100	1-20 5-100
RED		∞	∞	∞		∞
BLACK		10-100 100-1K	10-100 100-1K	5-50 50-1K	5-200 100- ∞	



• REGULATOR/VOLTAGE

• Using a voltmeter

Warm up the engine.

Connect a voltmeter between the battery.

Positive and negative terminals.

Increase engine speed gradually.

The regulator is normal if voltage reads 7–8 volts on the voltmeter.

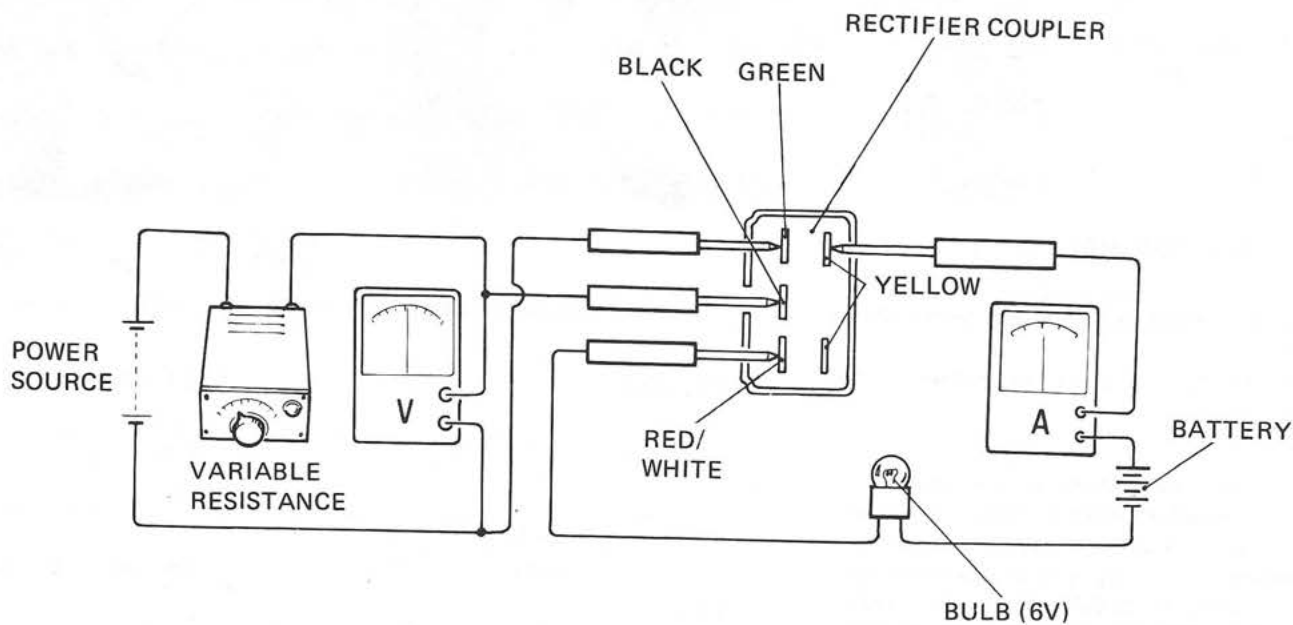
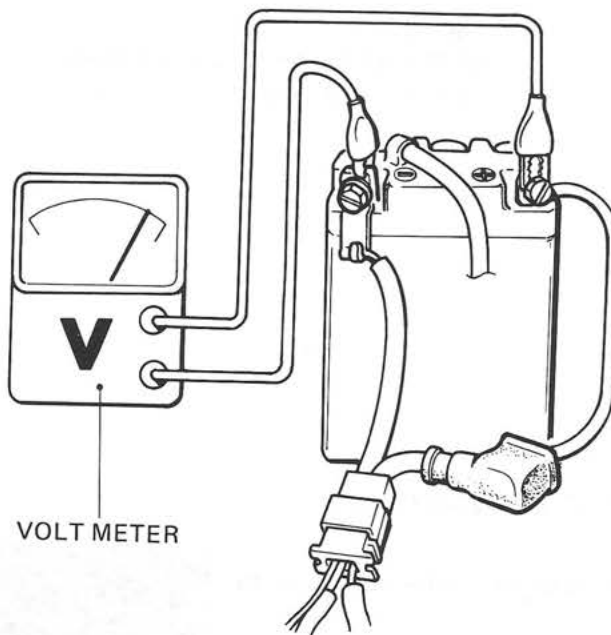
NOTE

Make the connections as shown and raise the engine speed gradually in order to permit the needle of each meter to swing gently.

• Using a variable resistance

Connect a variable resistance, voltmeter, bulb and ammeter as shown.

If the needle of the ammeter fluctuates when the voltage is set at 7–8 volts with variable resistance, the regulator is in good condition.





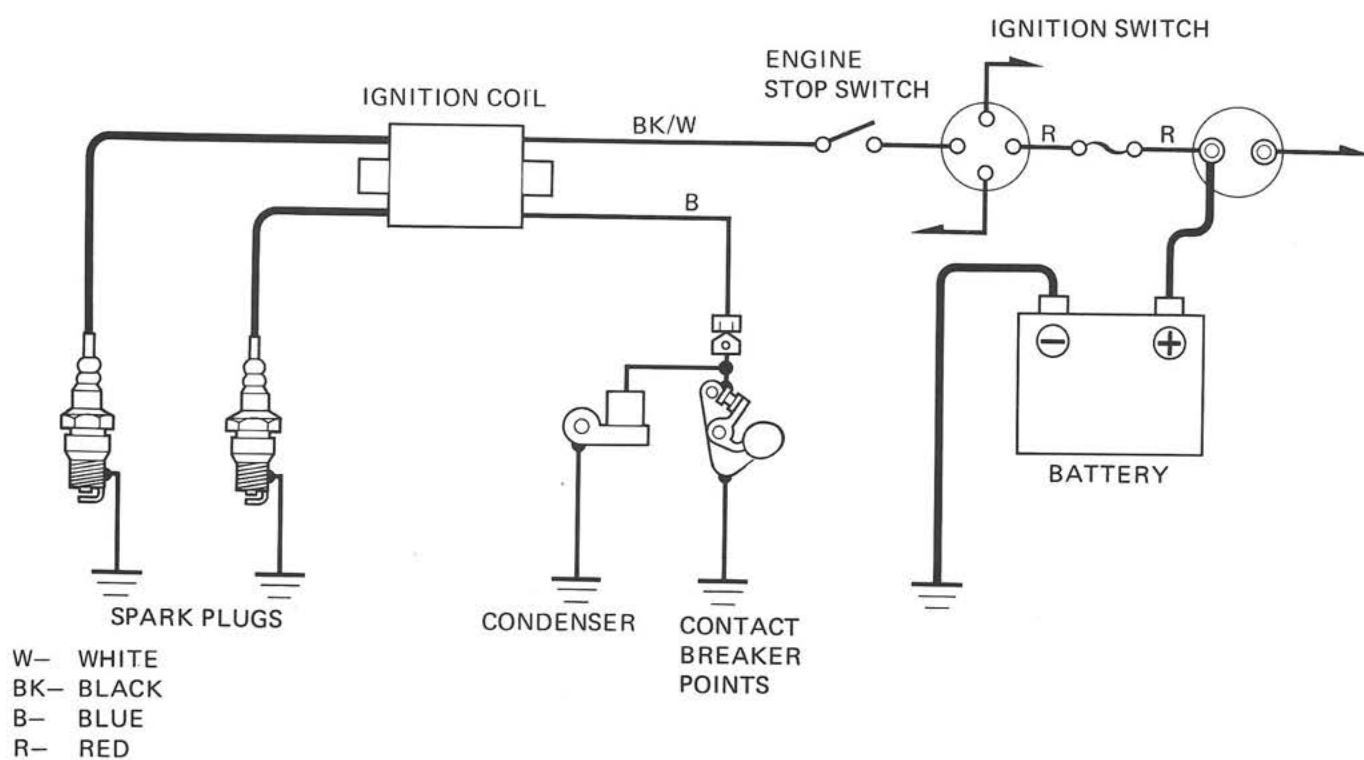
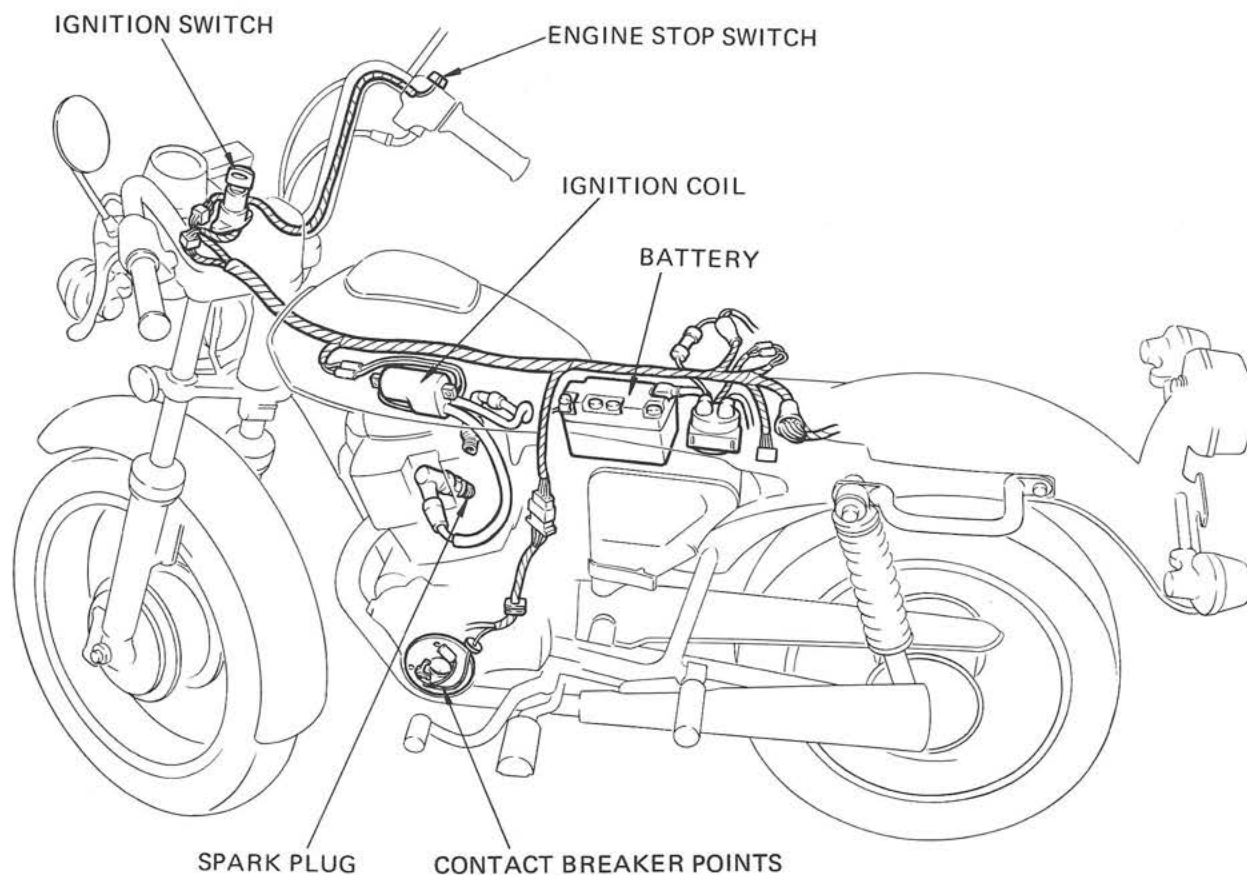
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CM 200T

'80 CM200T ADDENDUM

MEMO



16. IGNITION SYSTEM





● SPECIFICATIONS

Spark plug
type:

for cold climate below 5°C (41°F)		standard		for extended high speed riding	
ND	NGK	ND	NGK	ND	NGK
U20FS	C6H	U22FS	C7HS	U24FB	C9H

Spark plug gap: 0.6–0.7 mm (0.024–0.028 in.)

Contact breaker points
point gap: 0.3–0.4 mm (0.012–0.016 in.)

Condenser capacity: $0.25 \pm 10\% \mu F$

Ignition advance F mark (initial): 15° B.T.D.C.

Max. advance: 32–35° B.T.D.C.

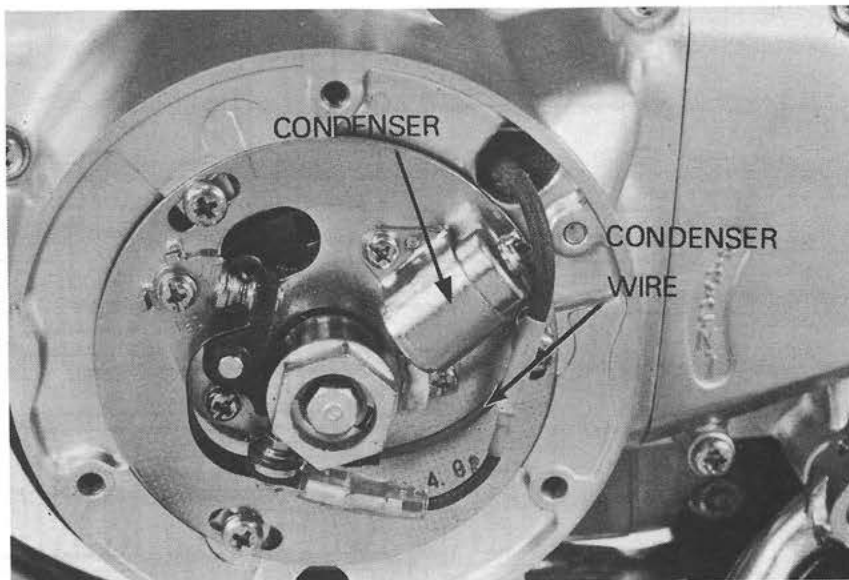
From "F" to max. advance: 1,800–2,800 rpm

● CONDENSER REMOVAL

Remove the point cover.

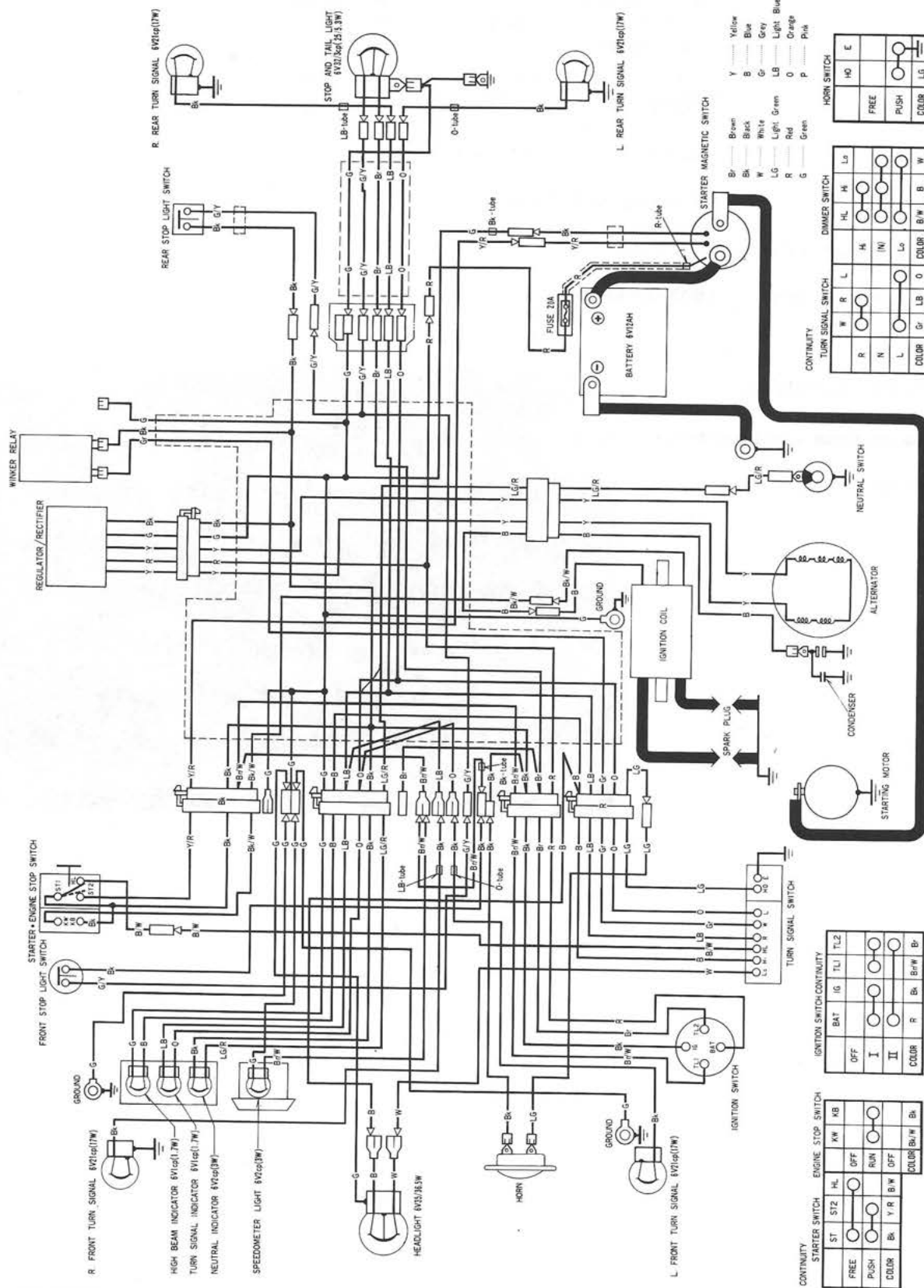
Disconnect the condenser wire from the break-
er points.

Remove the condenser.





17. WIRING DIAGRAM



0030Z-465-6700



HONDA
CM 200T

21. '81 CM200T ADDENDUM

INTRODUCTION

This Addendum contains service information for the 1981 CM200T. Refer to the base shop manual or the 1980 Addendum for service procedures and data not included in this addendum.

ALL INFORMATION, ILLUSTRATIONS, DIRECTIONS AND SPECIFICATIONS INCLUDED IN THIS PUBLICATION ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF APPROVAL FOR PRINTING. HONDA MOTOR CO., LTD. RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLIGATION WHATEVER. NO PART OF THIS PUBLICATION MAY BE REPRODUCED WITHOUT WRITTEN PERMISSION.

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1. SPECIFICATIONS

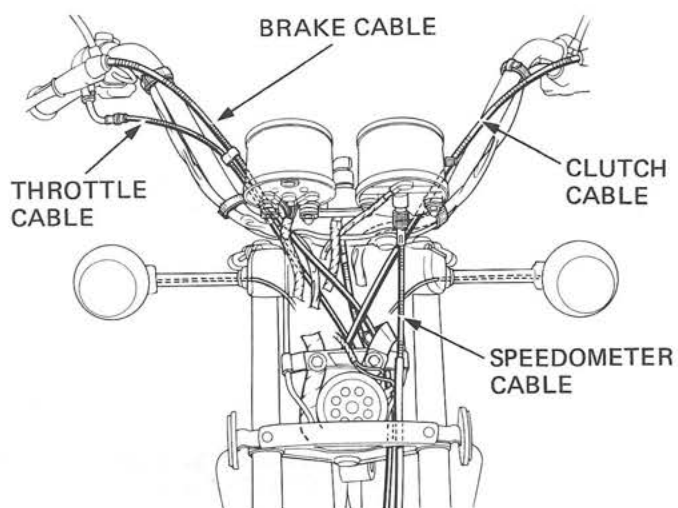
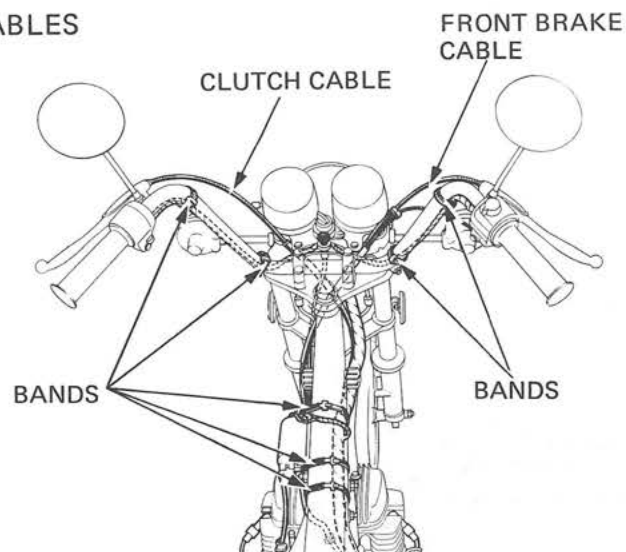
New specifications for the 1981 CM200T are listed below. See page 20-2 for all other specifications.

	ITEM	
DIMENSIONS	Overall width	860mm (33.9 in)
	Dry weight	125.5 kg (276.7 lbs)
FRAME	Fuel reserve capacity	1.3 liters (0.34 US gal, 0.28 Imp. gal)
ENGINE	Maximum horsepower	15.7 BHP/8,500 rpm
	Maximum torque	1.45 kg-m (10.49 lb-ft)/6,500 rpm
ELECTRICAL	Ignition	CDI
	Ignition timing "F" mark	15° BTDC at idle
	Full advance	32–35° BTDC at 2,800±100 rpm
	Alternator	175 W/5,000 rpm
	Battery capacity	12V–9 AH
	Headlight	50/35W
	Tail/stoplight	3/32 cp
	Turn signal	32/32 cp SAE No. 1073
	Speedometer light	2 cp SAE No. 57
	Neutral indicator	2 cp SAE No. 57
	Turn signal indicator	2 cp SAE No. 57
	High beam indicator	2 cp SAE No. 57



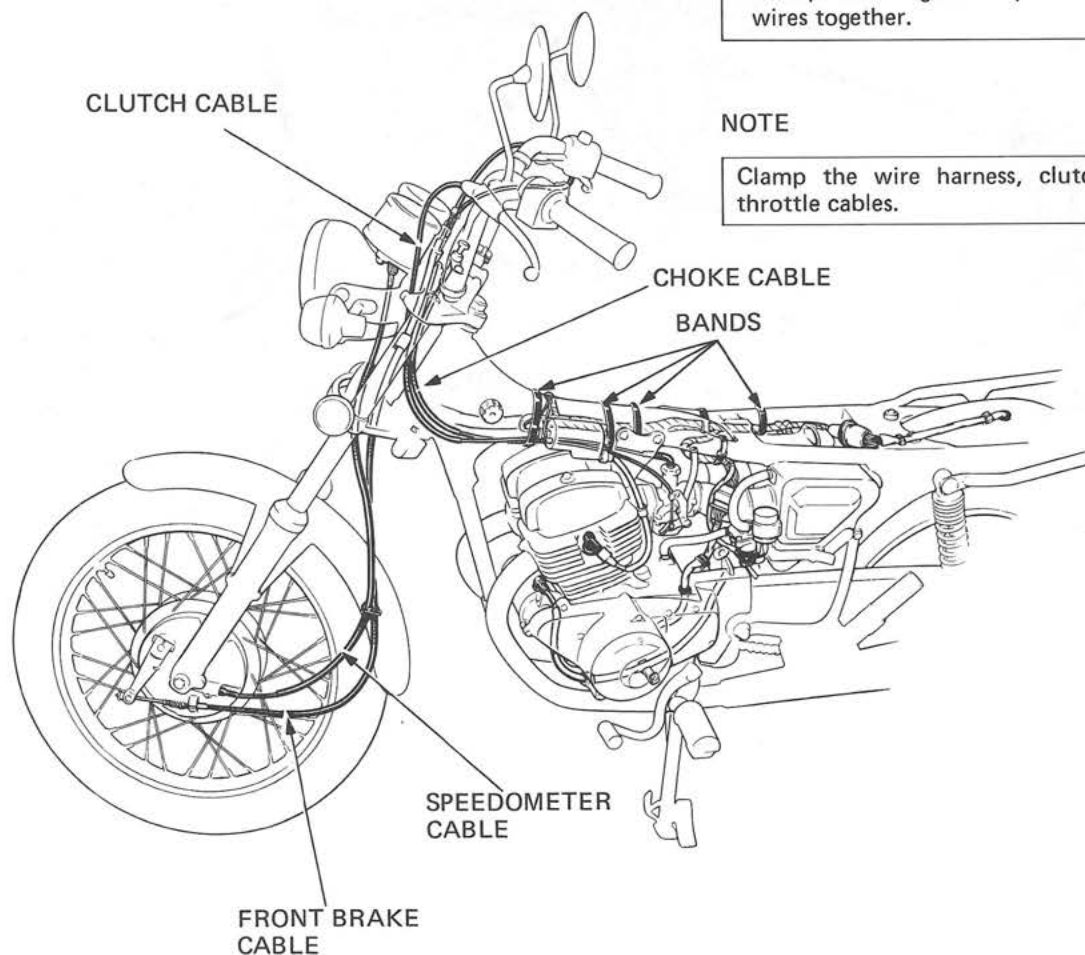
2. CABLE AND HARNESS ROUTING

• CABLES



NOTE

- Clamp the front brake and throttle cables together.
- Clamp the engine stop switch and starter wires together.

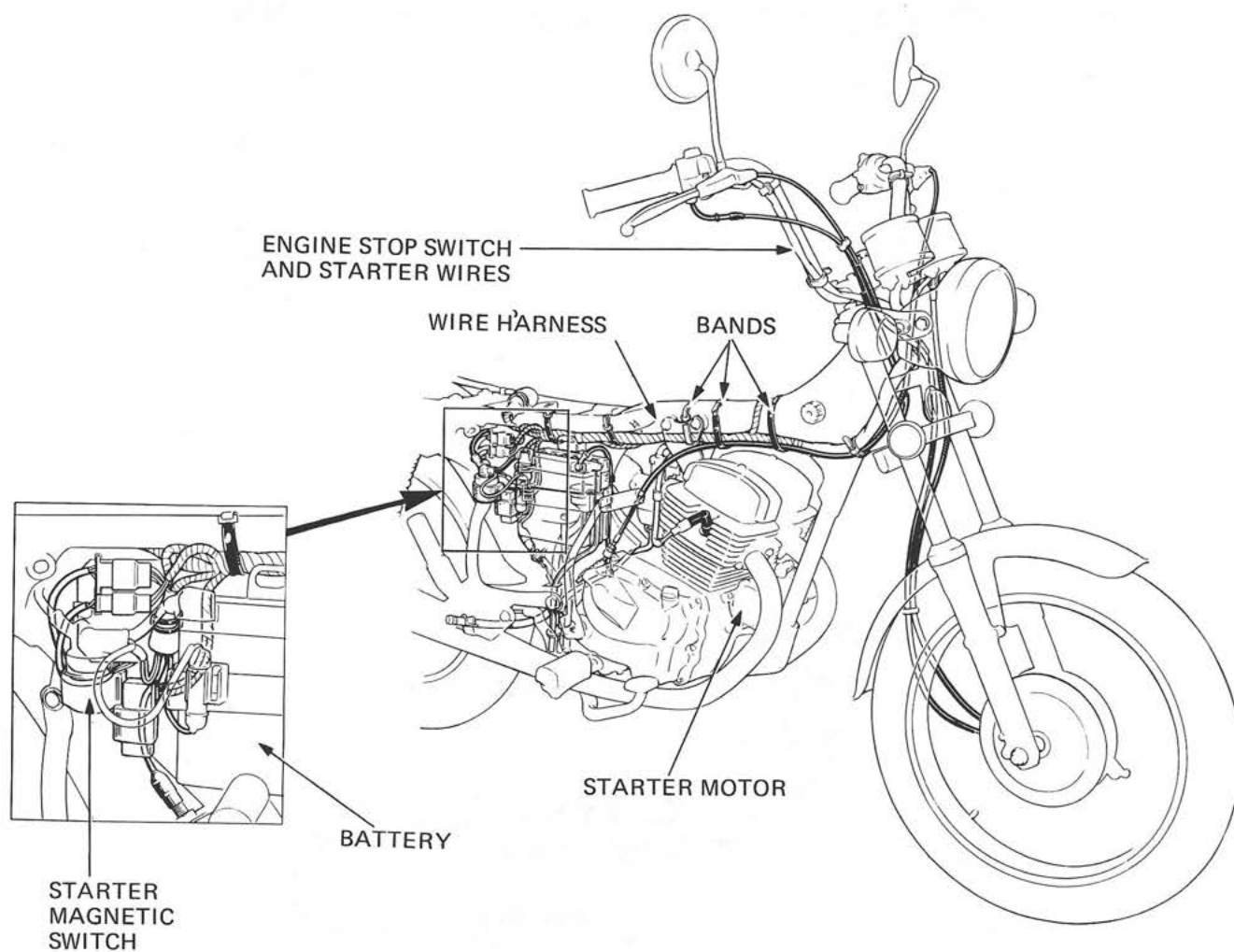


NOTE

- Clamp the wire harness, clutch, choke, and throttle cables.



• WIRE HARNESES





3. MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION at each scheduled maintenance period.

- I: INSPECT AND CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY.
 C: CLEAN
 R: REPLACE
 A: ADJUST
 L: LUBRICATE

FREQUENCY ITEM			WHICHEVER COMES FIRST ↓ EVERY	ODOMETER READING (NOTE 3)				
				600mi. (1,000km)	4,000mi. (6,400km)	8,000mi. (12,800km)	12,000mi. (19,200km)	Refer to Page
EMISSION RELATED ITEMS	*	FUEL LINE			I	I	I	3-3
	*	THROTTLE OPERATION		I	I	I	I	3-7
	*	CARBURETOR-CHOKE			I	I	I	3-8
		AIR CLEANER	NOTE 1		C	C	C	3-2
		CRANKCASE BREATHER (USA only)	NOTE 2		C	C	C	3-3
		SPARK PLUG			R	R	R	20-13
	*	VALVE CLEARANCE		I	I	I	I	3-4
		ENGINE OIL	YEAR	R	REPLACE EVERY 2,000 mi. (3,200km)			2-2
	*	ENGINE OIL FILTER SCREEN				C		2-2
	*	CAM CHAIN TENSION		A	A	A	A	3-7
*	CARBURETOR-IDLE SPEED		I	I	I	I	3-8	
NON-EMISSION RELATED ITEMS		DRIVE CHAIN		I, L EVERY 300mi. (500km)				3-10
		BATTERY	MONTH	I	I	I	I	3-11
		BRAKE SHOE WEAR			I	I	I	3-11
		BRAKE SYSTEM		I	I	I	I	3-12
	*	BRAKE LIGHT SWITCH		I	I	I	I	3-14
	*	HEADLIGHT AIM		I	I	I	I	3-15
		CLUTCH		I	I	I	I	3-15
		SIDE STAND			I	I	I	3-16
	*	SUSPENSION		I	I	I	I	3-17
	*	NUTS, BOLTS, FASTENERS		I	I	I	I	3-18
	**	WHEELS/SPOKES		I	I	I	I	3-17
	**	STEERING HEAD BEARING		I		I		3-18

* SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND SERVICE DATA AND IS MECHANICALLY QUALIFIED.

** IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

NOTE:

- SERVICE MORE FREQUENTLY WHEN RIDING IN DUSTY AREAS.
- SERVICE MORE FREQUENTLY WHEN RIDING IN RAIN OR AT FULL THROTTLE (USA ONLY).
- FOR HIGHER ODOMETER READINGS, REPEAT AT THE FREQUENCY INTERVAL ESTABLISHED HERE.



4. INSPECTION AND ADJUSTMENT

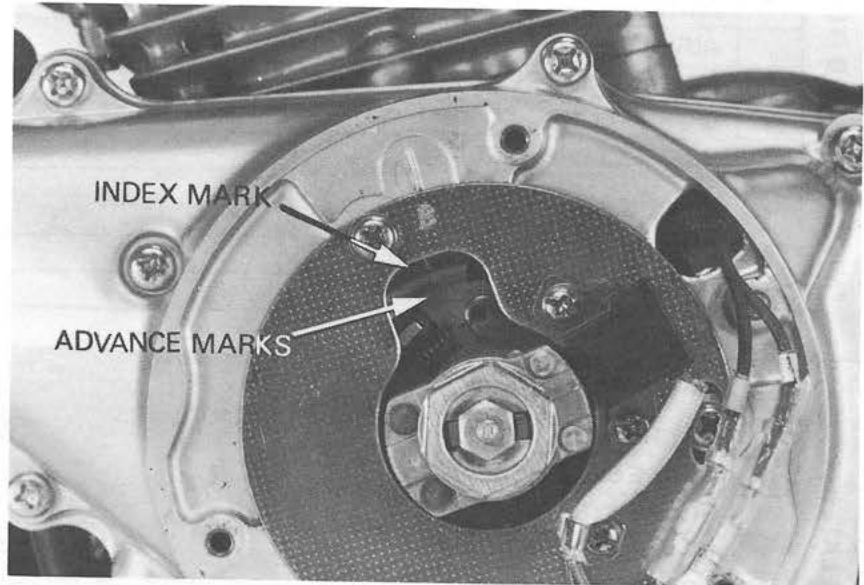
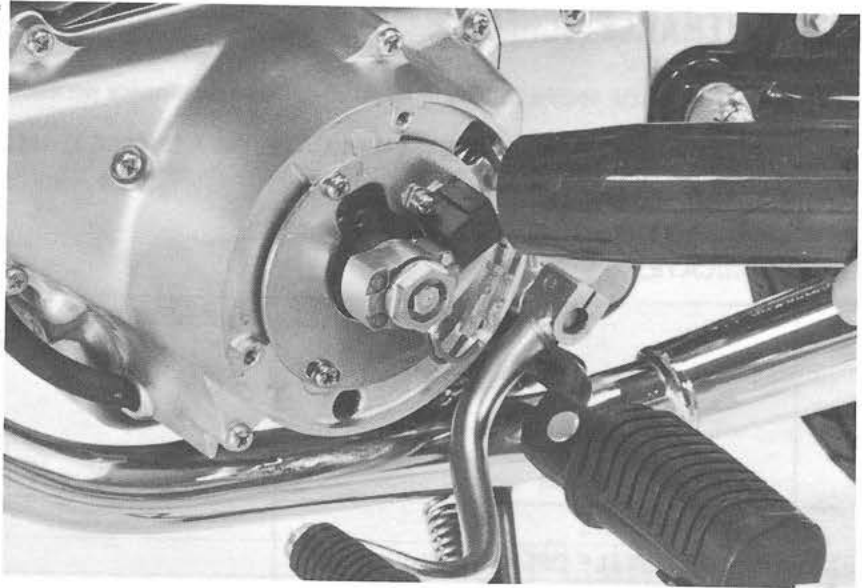
IGNITION ADVANCE TIMING

NOTE

Full advance (32° – 35° BTDC) is reached at 2,800 rpm.

Connect a tachometer and stroboscopic timing light.

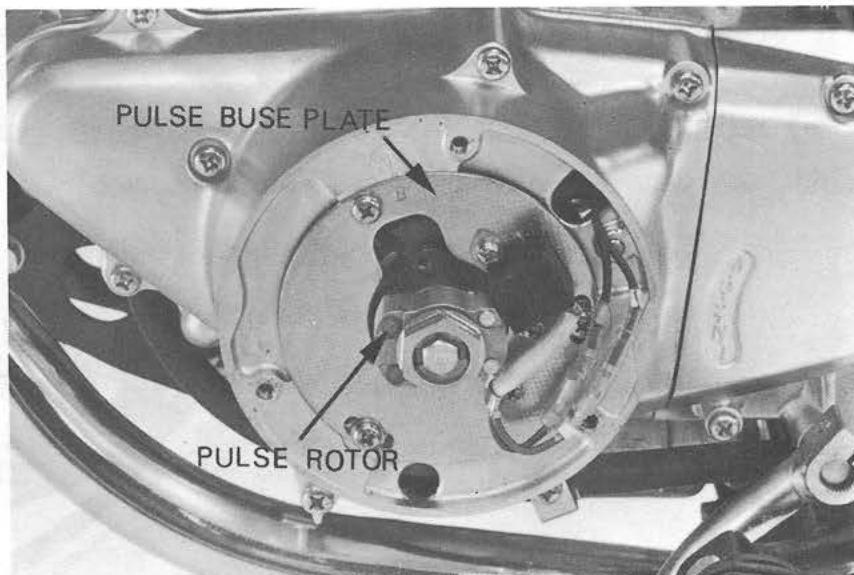
Check ignition advance timing while running the engine above 2,800 rpm. Timing is correct if the index mark is aligned between the two full advance marks.



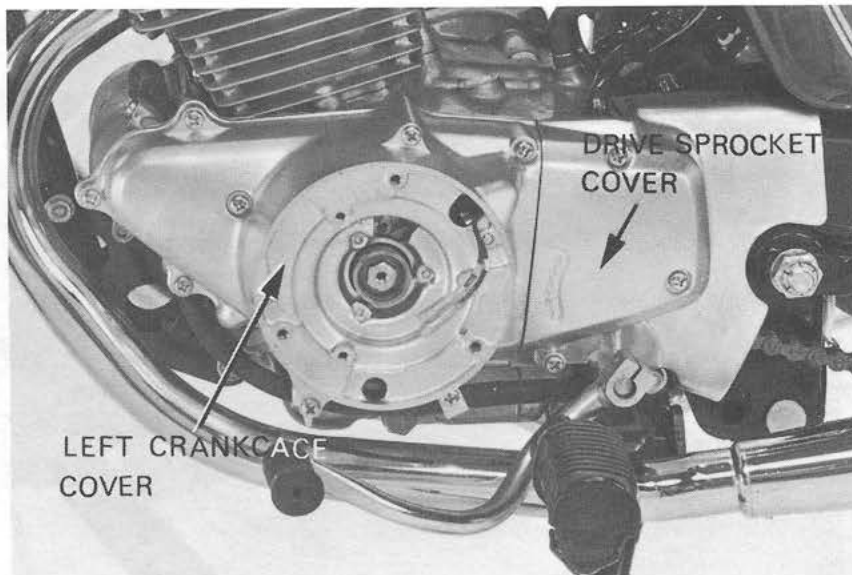


5. A.C. GENERATOR

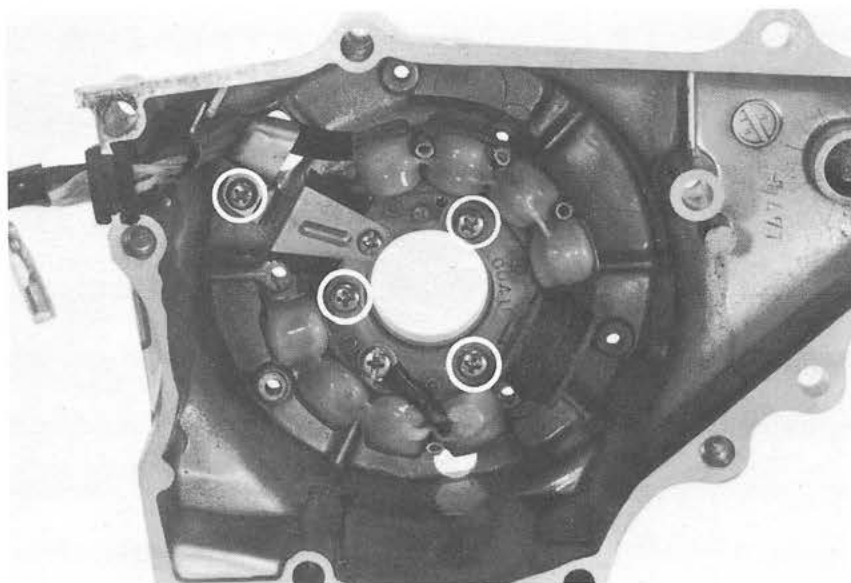
Remove the A.C. generator cover and gasket.
Remove the pulse base plate and disconnect
the pulse generator wire.
Remove the 6 mm bolt and pulse rotor.



Remove the left crankcase and drive sprocket
covers.
Disconnect the A.C. generator coupler and
neutral switch wire.

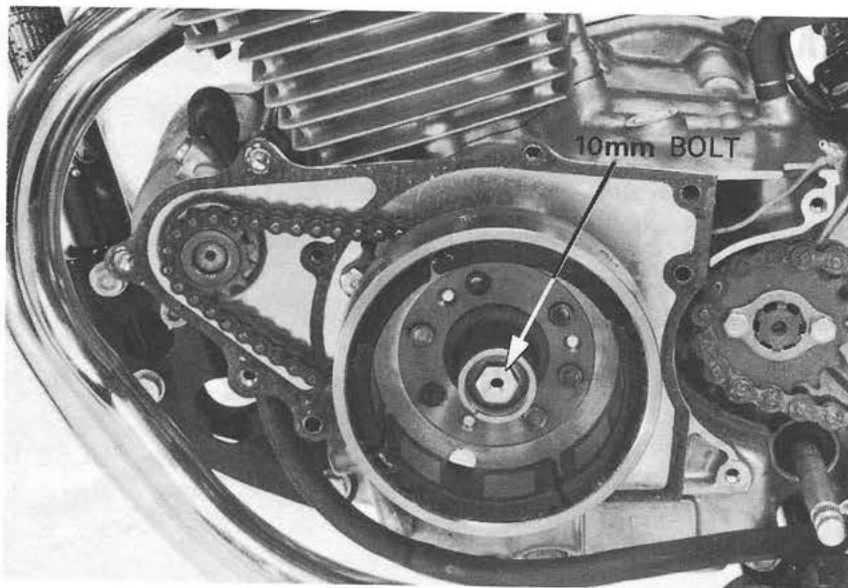


Loosen the four screws and remove the stator
coil.

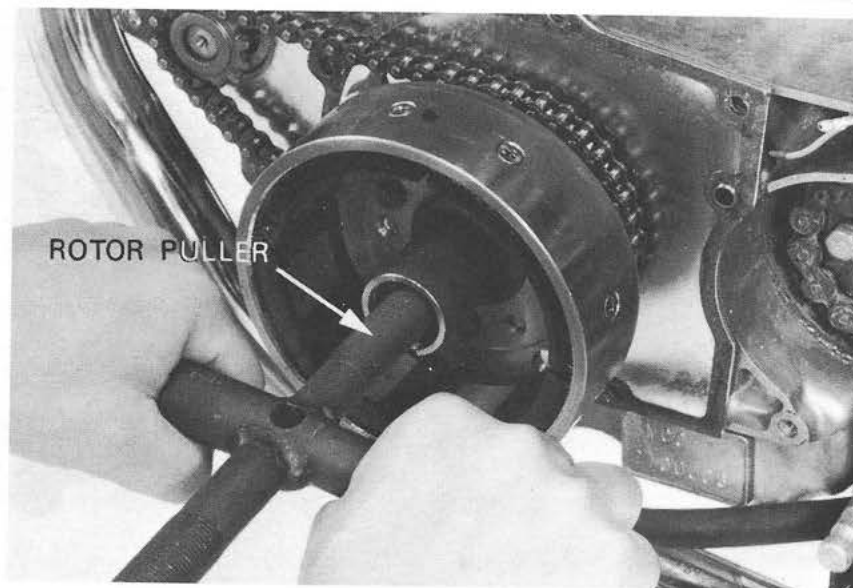




Remove the 10 mm bolt.

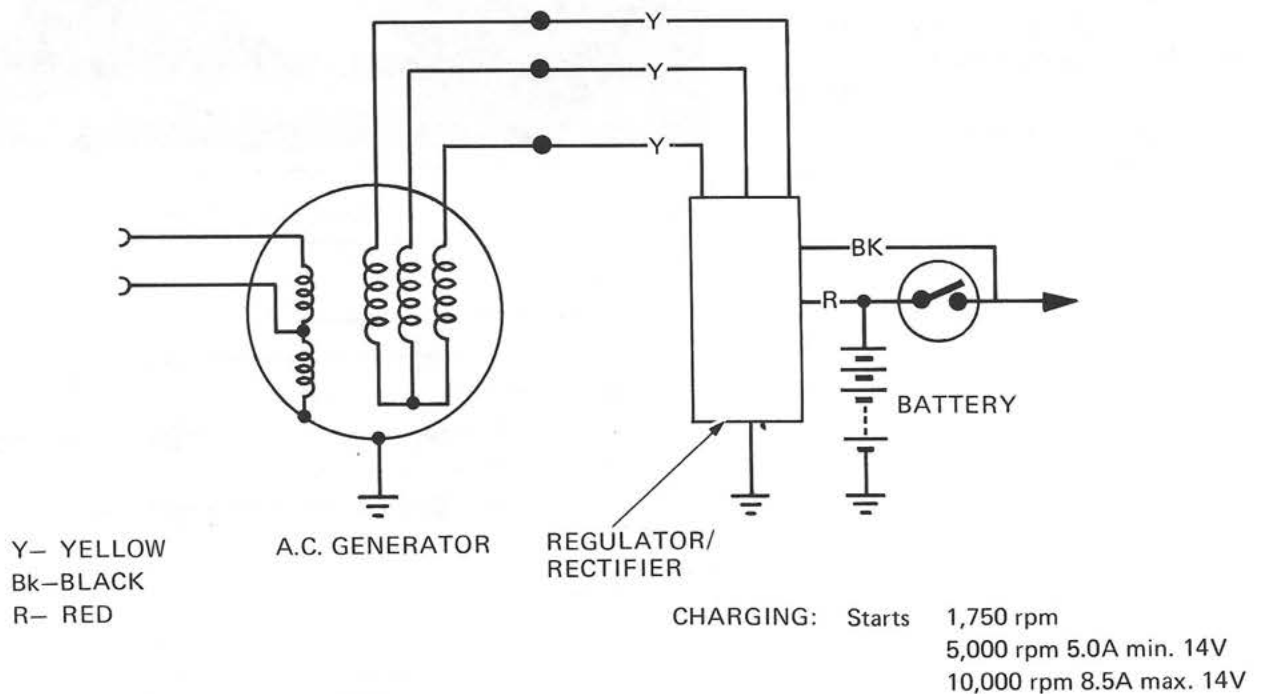
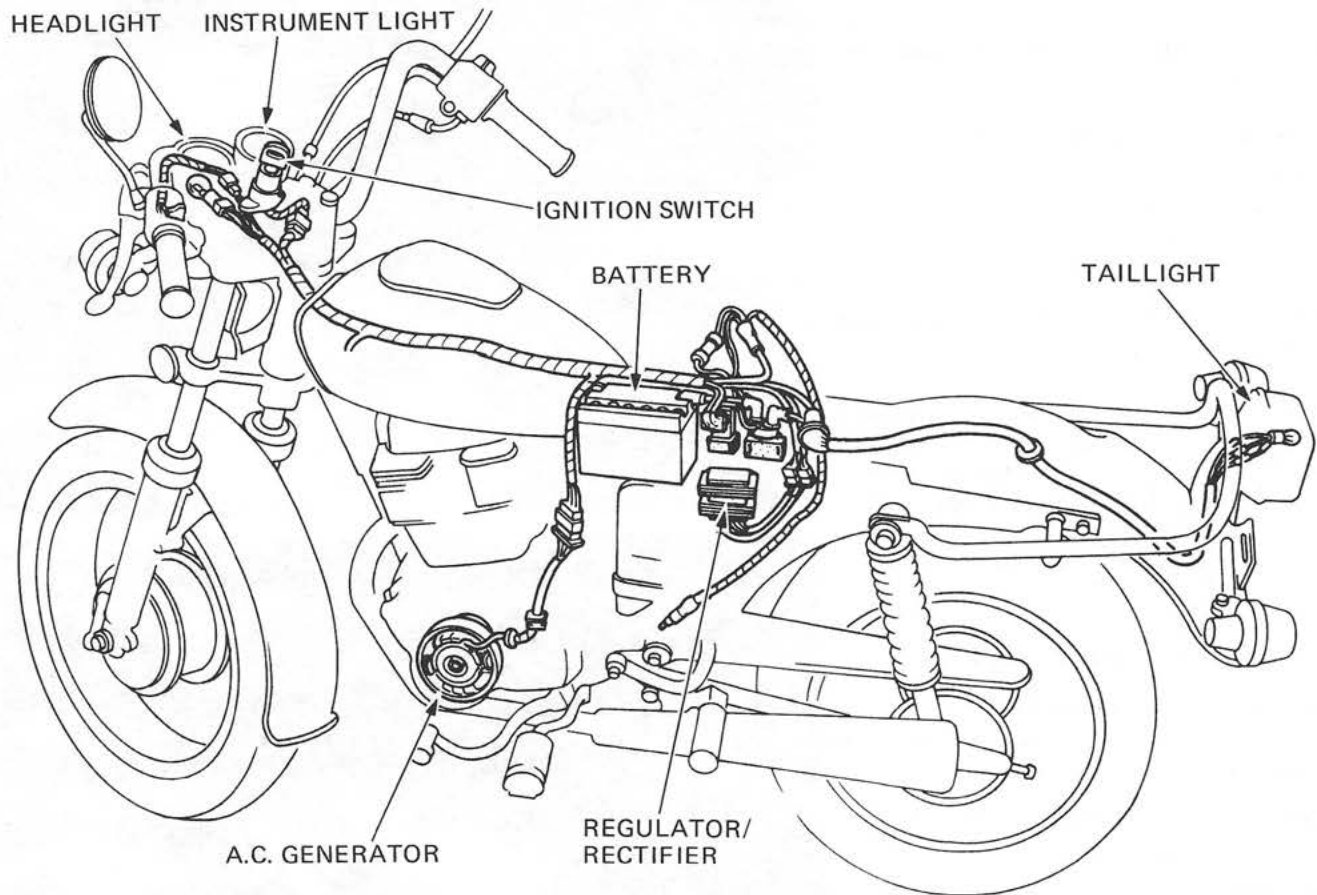


Remove the rotor with a rotor puller.





6. BATTERY/CHARGING SYSTEM





• STATOR COIL INSPECTION

NOTE

It is not necessary to remove the stator to make this test.

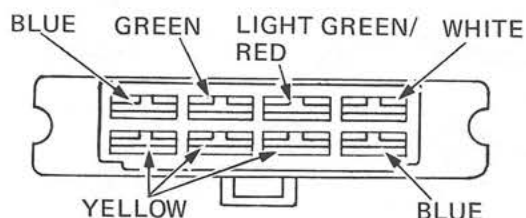
Disconnect the A.C. generator coupler.

Continuity test:

There should be continuity between the yellow wire leads.

Insulation test:

There should be no continuity between each yellow wire lead and ground.



• REGULATOR/RECTIFIER TEST

Disconnect the rectifier coupler.

Check the resistances between the leads with an ohmmeter.

RESISTANCES IN NORMAL DIRECTION

GREEN LEAD AND ANY

YELLOW LEAD: $5 \sim 40\Omega$

RED/WHITE LEAD AND ANY

YELLOW LEAD: $5 \sim 40\Omega$

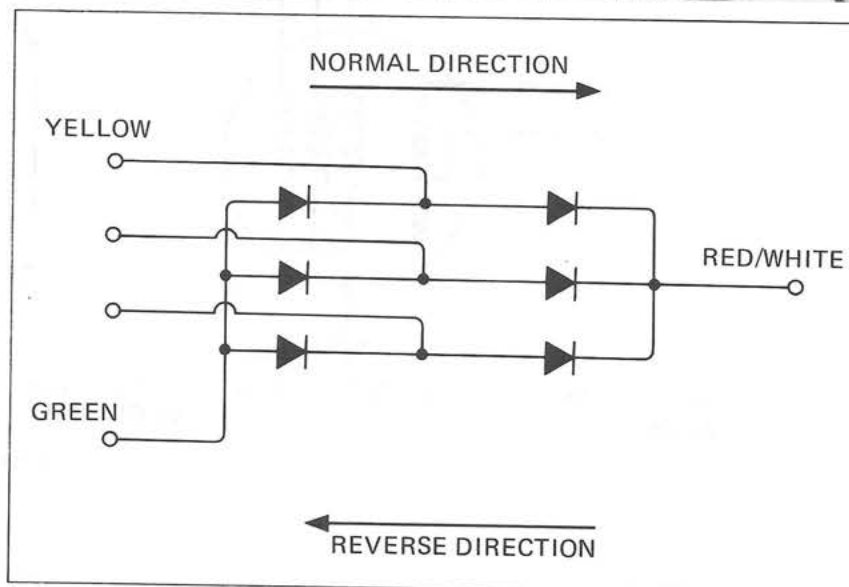
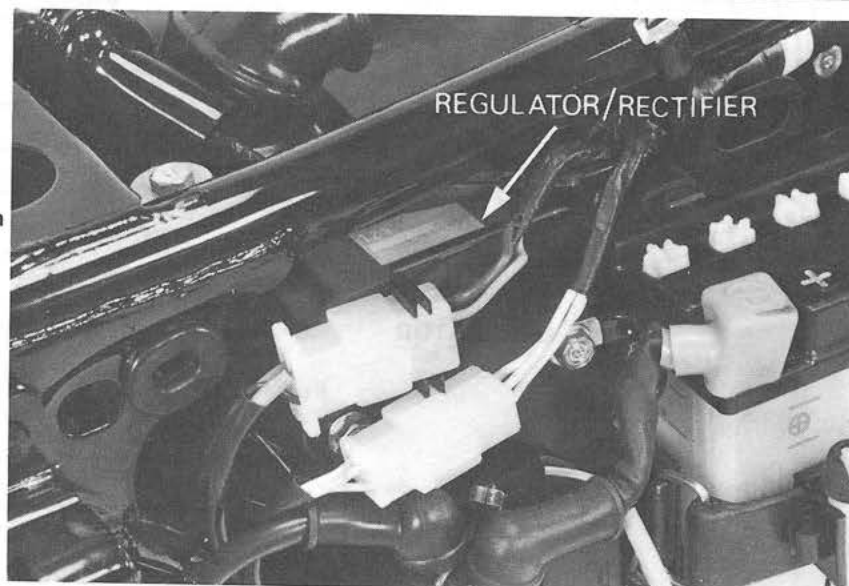
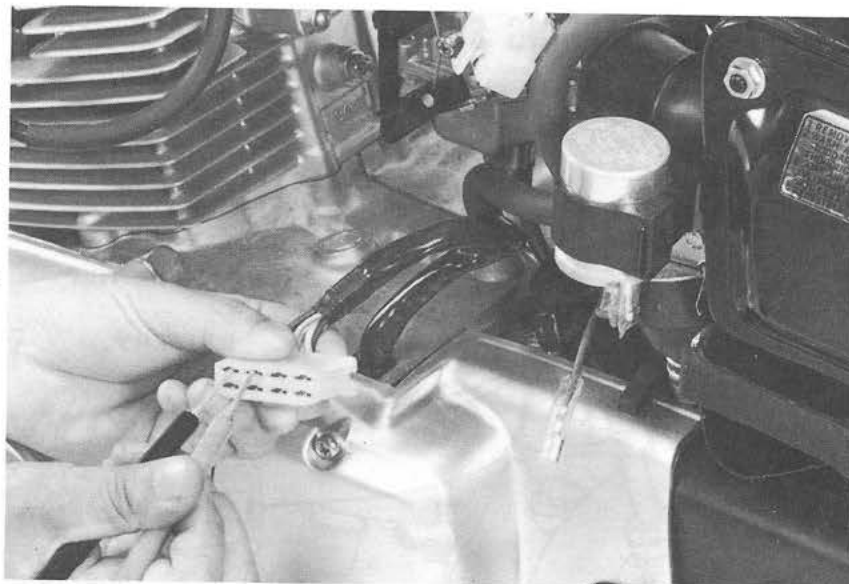
RESISTANCES IN REVERSE DIRECTION

RED/WHITE LEAD AND ANY

YELLOW LEAD: 2000Ω minimum

GREEN LEAD AND ANY

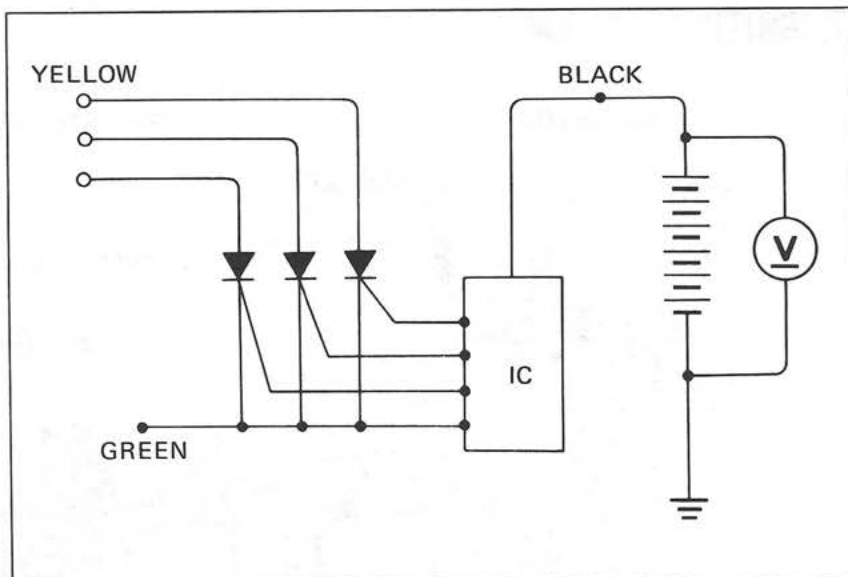
YELLOW LEAD: 2000Ω minimum





● VOLTAGE REGULATOR PERFORMANCE TEST

Connect a voltmeter across the battery.
Check regulator performance with the engine running.
Regulator must divert current to ground when battery voltage reaches 14.0~15.0 V.



● BATTERY

Remove the right side cover.
Inspect the battery electrolyte level.
When the fluid level is near the lower level, refill with distilled water to the upper level.

WARNING

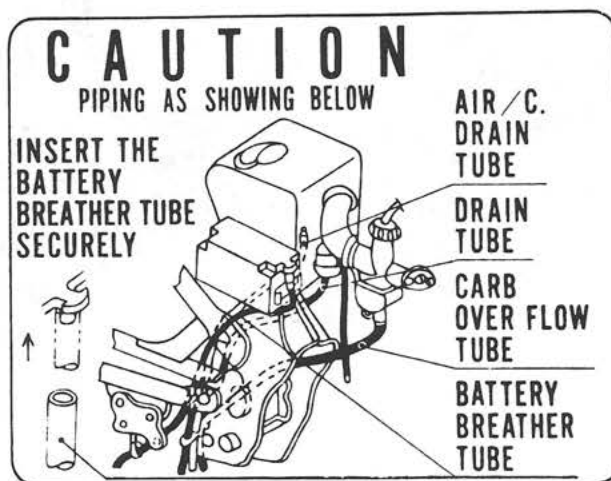
The battery electrolyte contains sulphuric acid. Protect your eyes, skin, and clothing. In case of contact, flush thoroughly with water and call a doctor if your eyes were exposed.

CAUTION

- * When reinstalling the battery, make sure the breather tube is connected to the battery breather tube outlet.
- * The battery breather tube must be routed as shown on the label. Do not bend or twist the breather tube. A bent or kinked breather tube may pressurize the battery and damage its case.

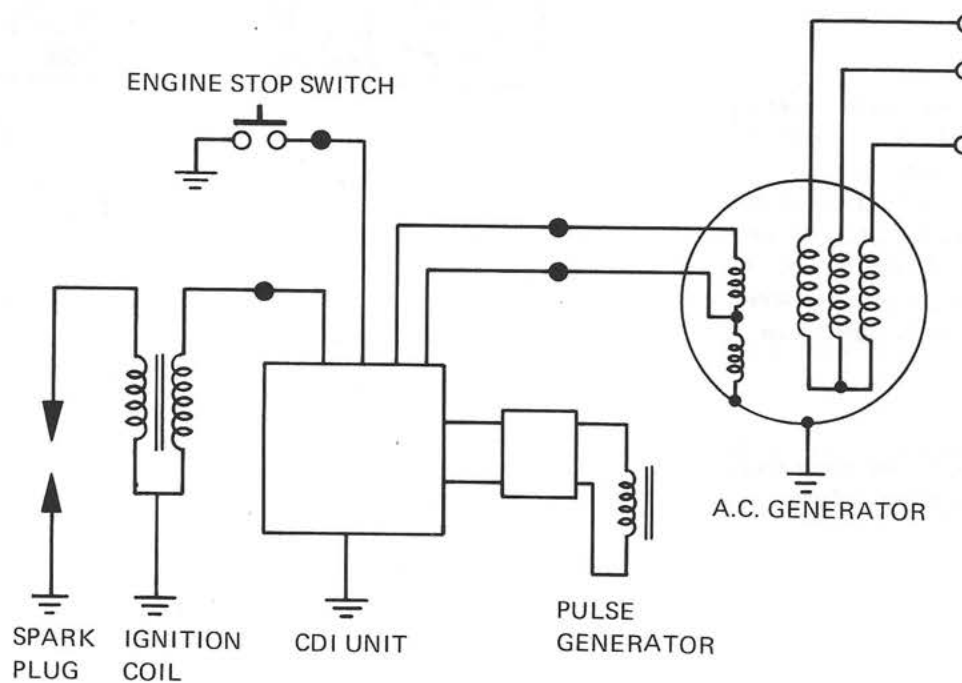
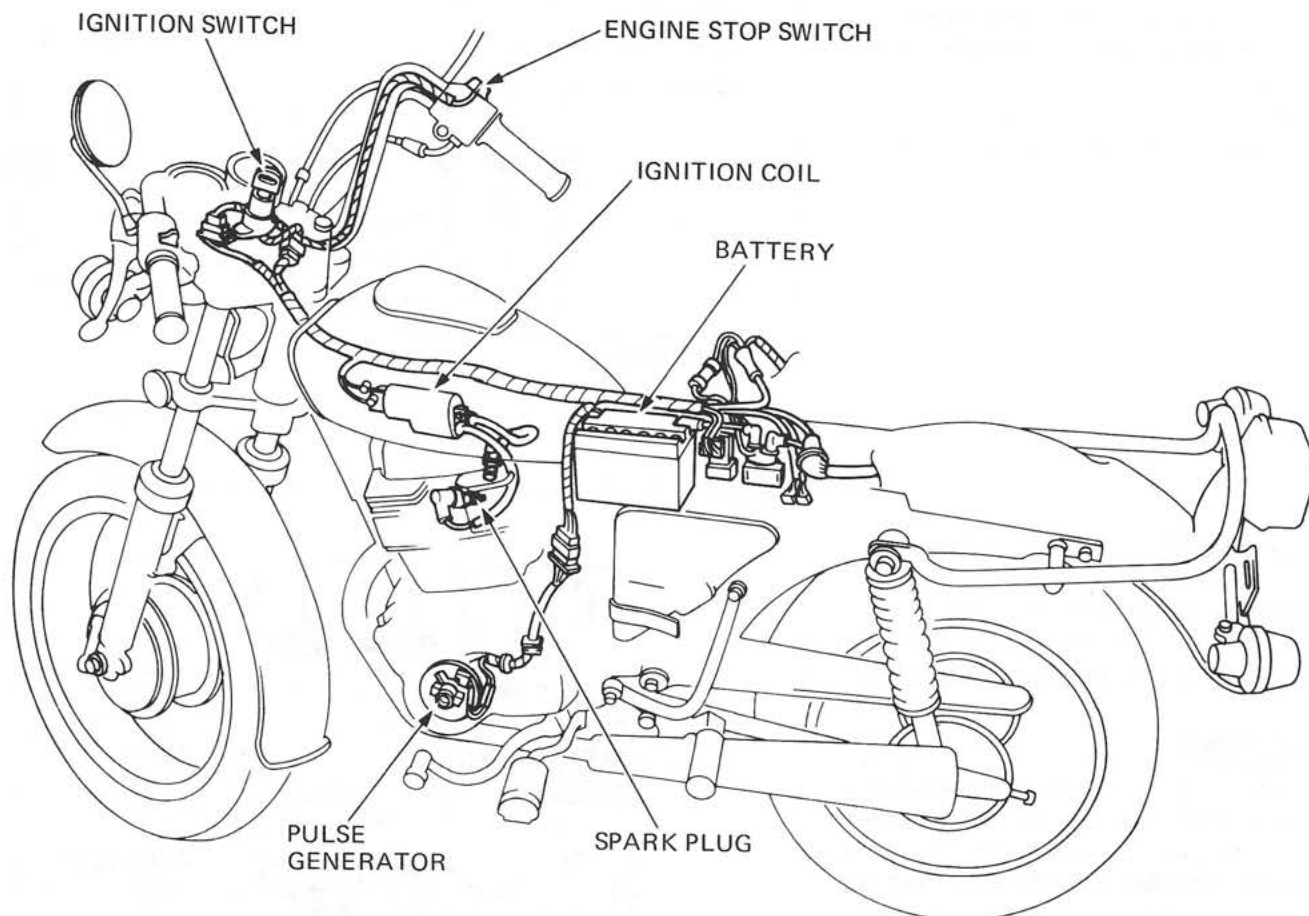
NOTE

Add only distilled water. Tap water may shorten the service life of the battery.





7. IGNITION SYSTEM

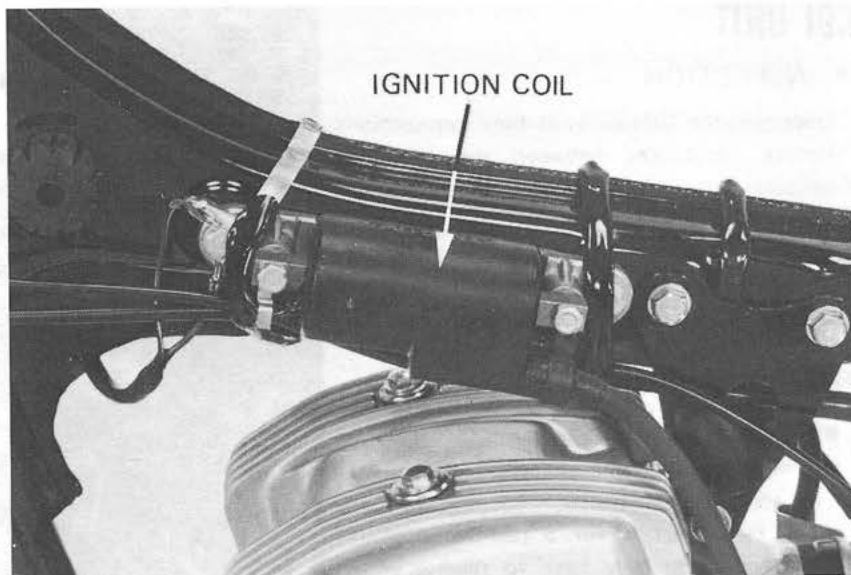




IGNITION COIL

• REMOVAL

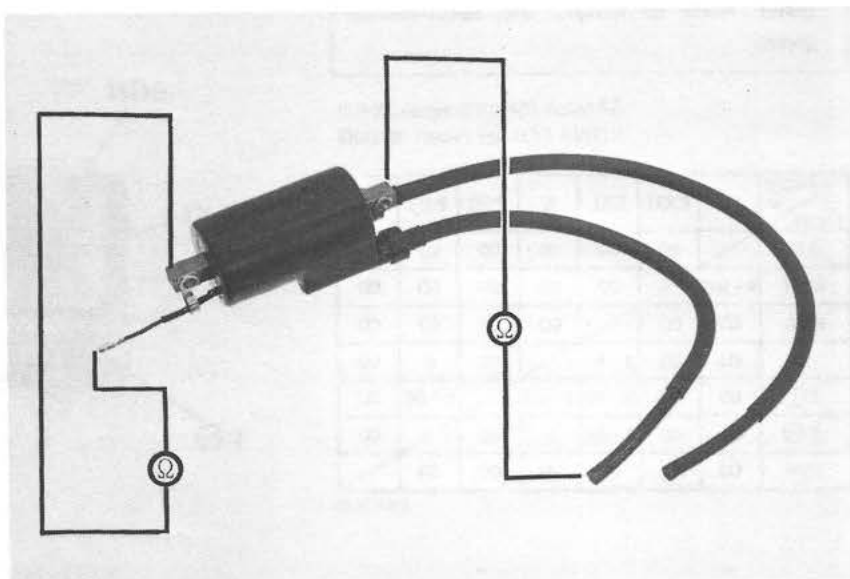
Remove the fuel tank.
Disconnect the wire leads.
Remove the coil attaching bolt and coil.



• INSPECTION

Measure the resistances of the primary and secondary coils.

PRIMARY:	0.5~0.6Ω
SECONDARY:	7~9 kΩ

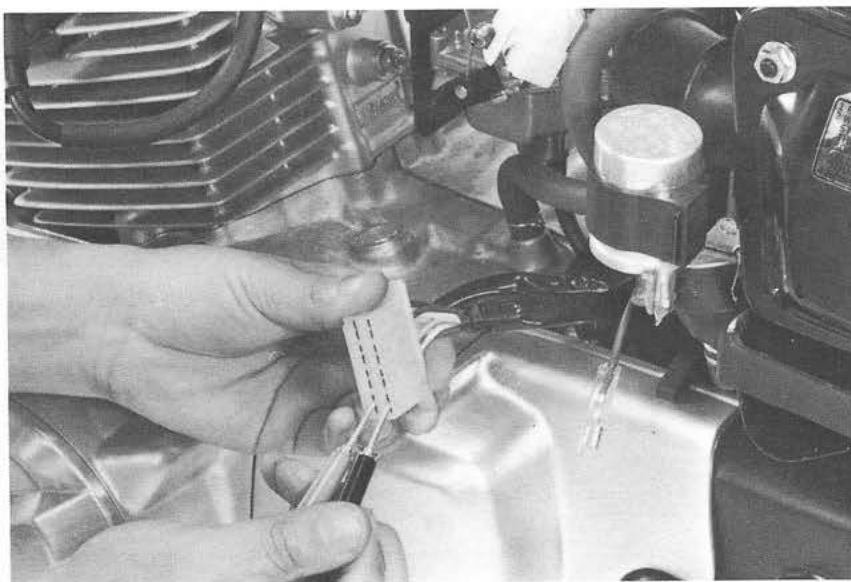


A.C. GENERATOR

• INSPECTION

Disconnect the A.C. generator coupler.
Measure the resistances between the terminals:

White-ground:	259~351Ω
White-blue:	73~99Ω





CDI UNIT

• INSPECTION

Disconnect the CDI wires at their connections. Measure resistances between the terminals. Compare the readings with the figures in the table.

Replace the CDI unit with a new one if the readings do not fall within the limits shown in the table.

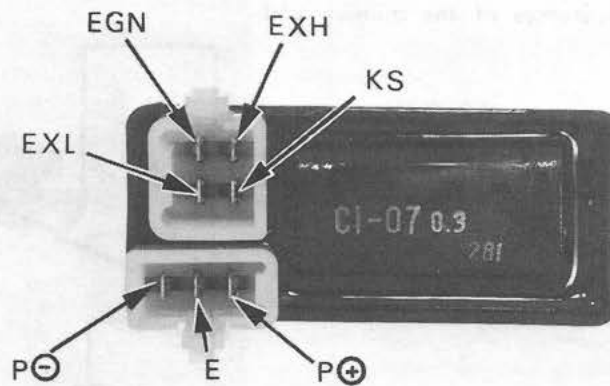
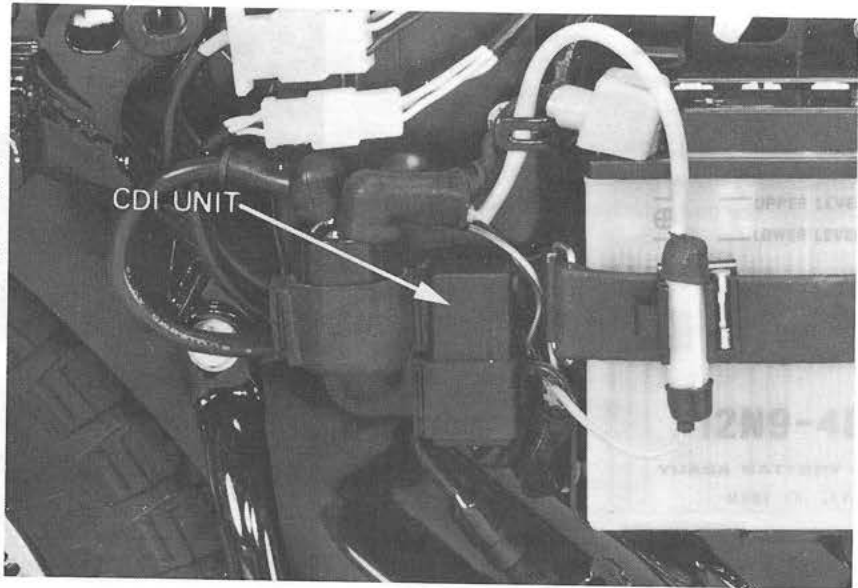
NOTE

- The CDI is a transistorized unit.
- A high quality ohmmeter is recommended for accurate test results.
- The test chart is for a positive ground tester, so you may have to reverse your tester leads to obtain the specification given.

SANWA (SP-10D type): XKΩ
 KOWA (TH-5H type): X100Ω

PROBE ⊖	PROBE ⊕	KS	EXH	EXL	E	P⊕	P⊖	IGN
PROBE ⊖	PROBE ⊕	KS	∞	∞	∞	∞	∞	∞
EXH	5~100	∞	∞	∞	∞	∞	∞	∞
EXL	∞	∞	∞	∞	∞	∞	∞	∞
E	∞	∞	1~50	∞	∞	0	∞	∞
P⊕	∞	∞	2~60	2~60	∞	2~60	∞	∞
P⊖	∞	∞	1~50	0	∞	∞	∞	∞
IGN	∞	∞	∞	∞	∞	∞	∞	∞

(UNITKΩ)

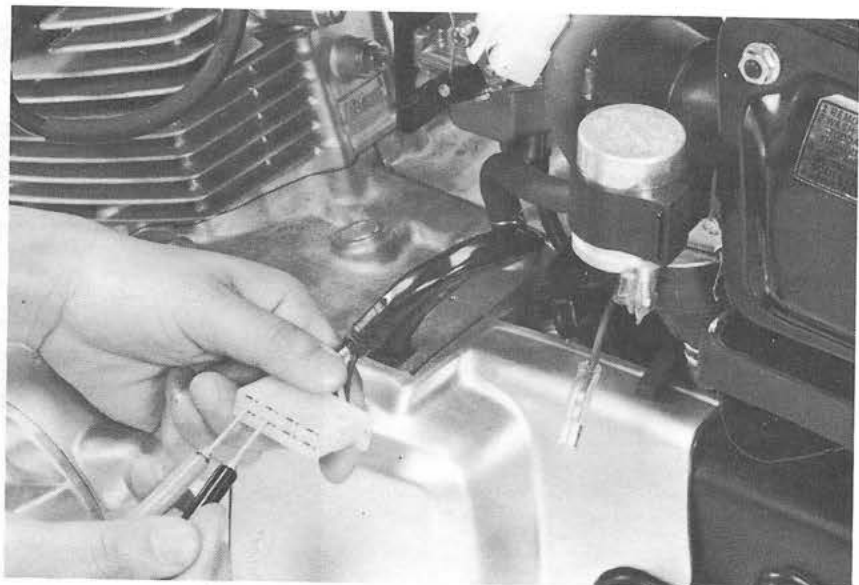


PULSE GENERATOR

• INSPECTION

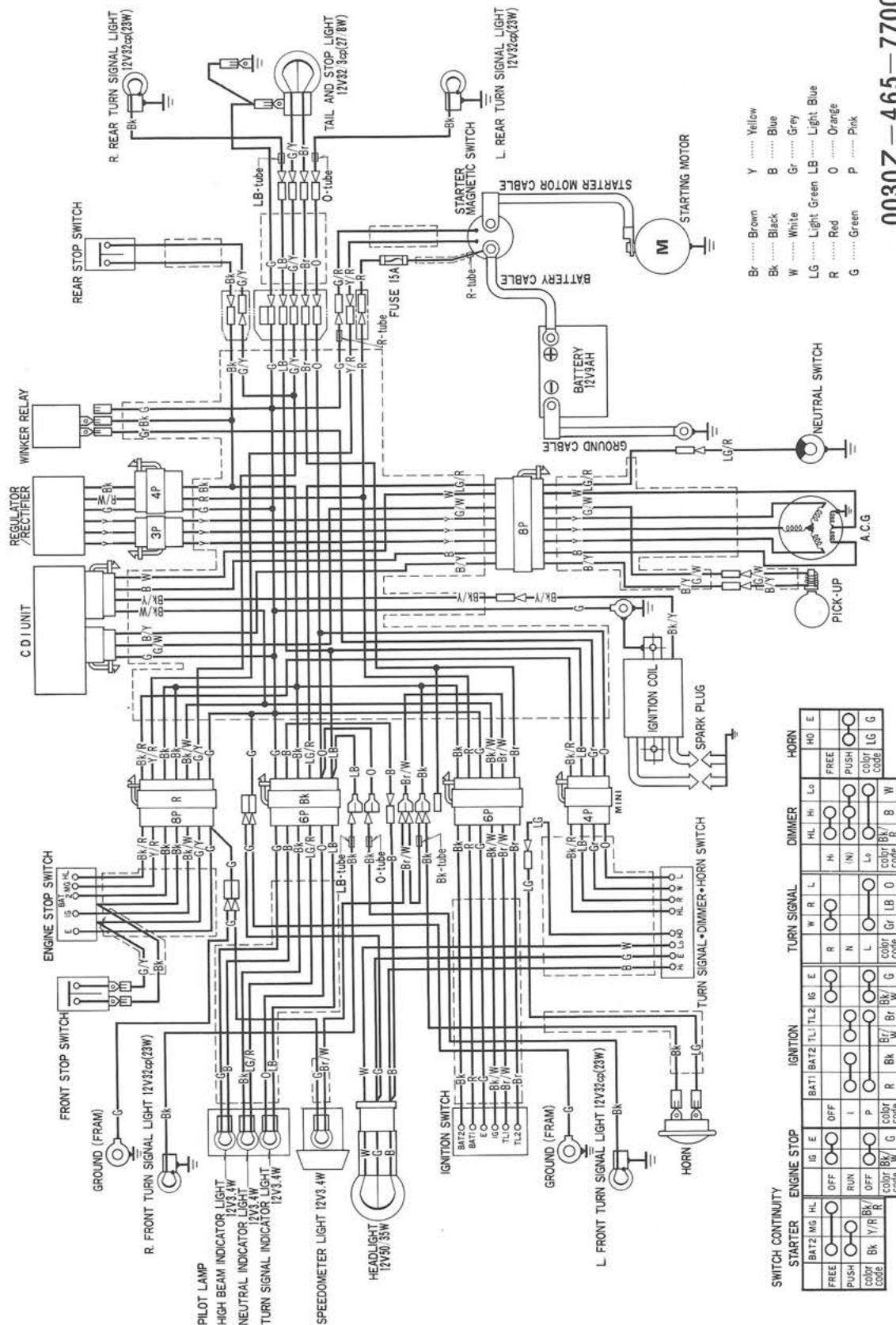
Disconnect the pulse generator wire coupler. Measure the resistance between the Blue/Yellow and Green wires.

SPECIFICATION: 30~200Ω





8. WIRING DIAGRAM



0030Z-465-7700



HONDA
CM 200T

MEMO



INTRODUCTION

This addendum is for the 1982 CM200T. Refer to the base Shop Manual or previous addendums for service information not included in this addendum.

ALL INFORMATION, ILLUSTRATIONS, DIRECTIONS AND SPECIFICATIONS INCLUDED IN THIS PUBLICATION ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF APPROVAL FOR PRINTING.

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Service Publications Office

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1. SPECIFICATIONS

This addendum lists only specifications which are new for 1982. Refer to the base manual and to the 1980 and 1981 addendums for information not covered here.

ELECTRICAL	Spark plug	
	Standard	CR6HS (NGK) or U20FSR-U (ND)
	For cold climate, below 5°C (41°F)	CR7HS (NGK) or U22FSR-U (ND)
	For extended high speed riding	CR8HS (NGK) or U24FSR-U (ND)
	Tail/stoplight	3/32 cp SAE No. 1157
	Speedometer light	2 cp SAE No. 158
	Neutral indicator	2 cp SAE No. 158
	Turn signal indicator	2 cp SAE No. 158
	High beam indicator	2 cp SAE No. 158



2. MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION in the Owner's Manual at each scheduled maintenance period.

- I: INSPECT AND CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY.
 C: CLEAN
 R: REPLACE
 A: ADJUST
 L: LUBRICATE

	ITEM	FREQUENCY	WHICHEVER COMES FIRST					ODOMETER READING NOTE 3	
		EVERY	600mi (1,000km)	4,000mi (6,400km)	8,000mi (12,800km)	12,000mi (19,200km)	Refer to Page		
EMISSION RELATED ITEMS	* FUEL LINE			I	I	I		3-3	
	* FUEL STRAINER		C	C	C	C		22-5	
	* THROTTLE OPERATION		I	I	I	I		3-7	
	* CARBURETOR-CHOKE			I	I	I		3-8	
	AIR CLEANER	NOTE 1		C	C	C		3-2	
	CRANKCASE BREATHER (USA only)	NOTE 2		C	C	C		3-3	
	SPARK PLUG			R	R	R		22-5	
	* VALVE CLEARANCE		I	I	I	I		3-4	
	ENGINE OIL	YEAR	R	REPLACE EVERY 2,000 mi. (3,200km)				22-4	
	* ENGINE OIL FILTER SCREEN				C			2-2	
	* CAM CHAIN TENSION		A	A	A	A		3-7	
	* CARBURETOR-IDLE SPEED		I	I	I	I		3-8	
NON-EMISSION RELATED ITEMS	DRIVE CHAIN		I, L EVERY 300 miles (600km)					3-10	
	BATTERY	MONTH	I	I	I	I		3-11,21-11	
	BRAKE SHOE WEAR			I	I	I		3-11	
	BRAKE SYSTEM		I	I	I	I		3-12	
	* BRAKE LIGHT SWITCH		I	I	I	I		3-14	
	* HEADLIGHT AIM		I	I	I	I		3-15	
	CLUTCH		I	I	I	I		3-15	
	SIDE STAND			I	I	I		3-16	
	* SUSPENSION		I	I	I	I		3-17,22-7	
	* NUTS, BOLTS, FASTENERS		I	I	I	I		3-18	
	** WHEELS/SPOKES		I	I	I	I		3-17,3-18	
	** STEERING HEAD BEARING		I		I			3-18	

- * SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND SERVICE DATA AND IS MECHANICALLY QUALIFIED.
 ** IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

NOTES:

- SERVICE MORE FREQUENTLY WHEN RIDING IN DUSTY AREAS.
- SERVICE MORE FREQUENTLY WHEN RIDING IN RAIN OR AT FULL THROTTLE (USA ONLY).
- FOR HIGHER ODOMETER READINGS, REPEAT AT THE FREQUENCY INTERVAL ESTABLISHED HERE.



3. LUBRICATION

ENGINE OIL CHANGE

NOTE

Drain the oil while the engine is warm and the vehicle upright to assure complete draining.

Stop the engine.

Place the motorcycle on its side stand.

Remove the oil filler cap/dipstick and drain plug and drain the oil into a drip pan or other suitable container of at least 2 quart capacity.

Make sure the sealing washer is in good condition.

Reinstall the drain plug.

Fill the crankcase with the recommended grade oil.

Use HONDA 4-STROKE OIL or equivalent.

API SERVICE CLASSIFICATION: SE or SF

VISCOSITY: SAE 10W-40

ENGINE OIL CAPACITY:

1.3ℓ (1.4 U.S. qt., 1.1 Imp qt.) after draining

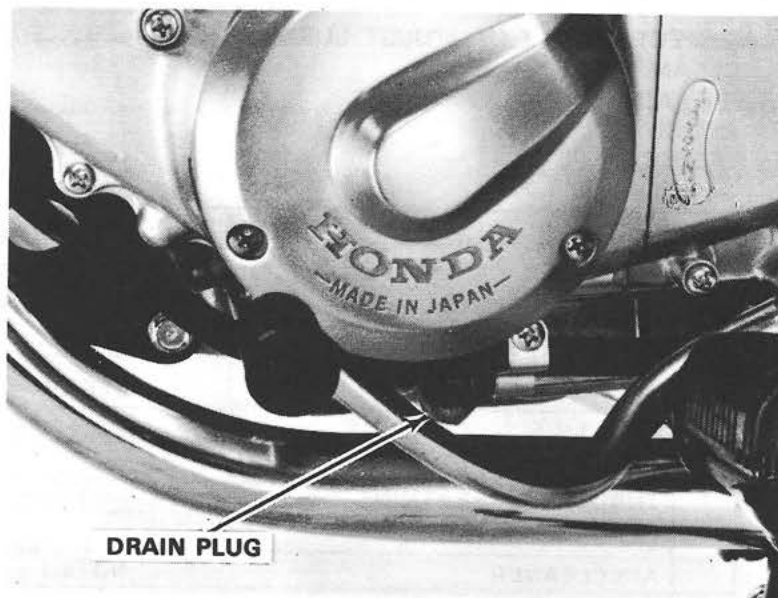
1.5ℓ (1.6 U.S. qt., 1.3 Imp qt.) after engine assembly

Install the oil filler cap/dipstick.

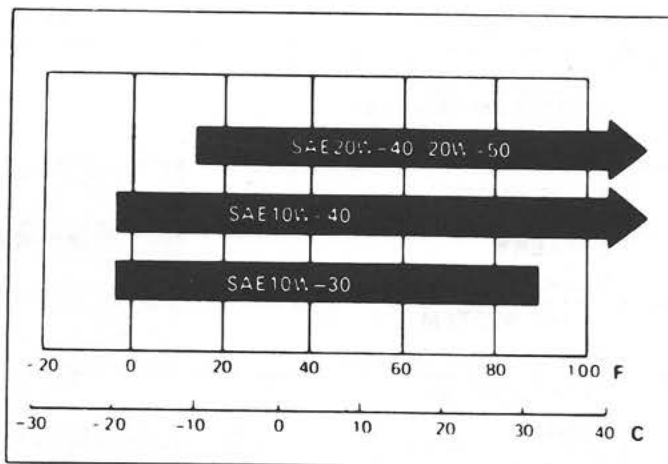
Start the engine and let it idle for 2-3 minutes.

Stop the engine. Check the oil level. It should be at the upper level mark with the vehicle held upright. Make sure there are no oil leaks.

Other viscosities may be used when the average temperature in your riding area is within the chart's indicated range.



RECOMMENDED OIL VISCOSITIES





4. INSPECTION AND ADJUSTMENT FUEL STRAINER CLEANING

WARNING

Gasoline is flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks near the equipment while draining fuel.

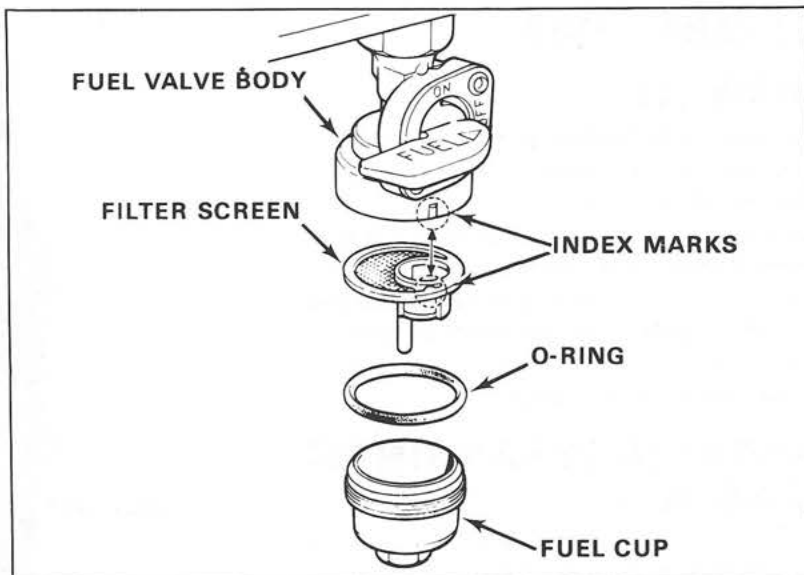
Turn the fuel valve OFF.

Remove the fuel cup, O-ring and filter screen, and drain the gasoline into a suitable container. Wash the cup and filter screen in clean non-flammable or high flash point solvent.

Reinstall the screen, aligning the index marks on the fuel valve body and filter screen. Install a new O-ring into the fuel valve body. Reinstall the fuel cup, making sure the new O-ring is in place. Hand tighten the fuel cup. Torque to specification.

TORQUE: 3-5 N·m (0.3-0.5 kg-m, 2-4 ft-lb)

After installing, turn the fuel valve ON and check that there are no fuel leaks.



SPARK PLUGS

For 1982, resistor type spark plugs are specified. They are identified in the table.

● RECOMMENDED SPARK PLUGS

Usage Brand	Standard	For cold climate (Below 5°C, 41°F)	For extended high speed riding
NGK	CR7HS	CR6HS	CR8HS
ND	U22FSR-U	U20FSR-U	U24FSR-U

● SPARK PLUG REPLACEMENT

Disconnect the spark plug caps.

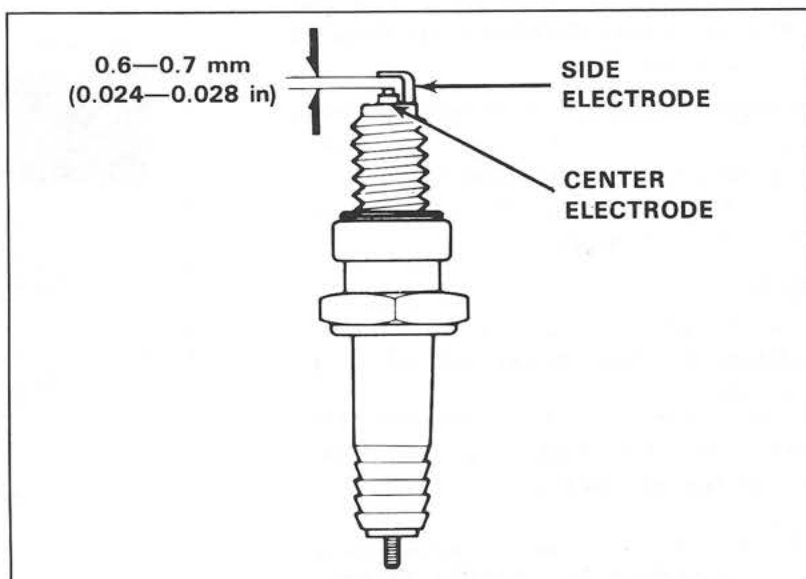
Clean any dirt from around the base of the spark plugs.

Remove and discard the used spark plugs.

Check the electrode gap of the new spark plugs, using a wire-type feeler gauge. Adjust by carefully bending the side electrode.

**SPARK PLUG GAP: 0.6-0.7 mm
(0.024-0.028 in)**

With washers attached, thread the new spark plugs in by hand to prevent cross-threading. After hand tightening, tighten an additional 1/2 turn with a spark plug wrench to compress the washers. Install the spark plug caps.





5. CARBURETOR

SLOW JET

Remove the carburetor (page 4-3).
Remove the float chamber body.
Remove the slow jet.
Blow out the slow jet with compressed air.
Inspect the slow jet for damage.
Screw in the slow jet until there is resistance,
and then tighten it an additional 3/4 turn.
Install the float chamber body.
Install the carburetor (page 4-7).

HIGH ALTITUDE ADJUSTMENT (U.S.A. only)

When the vehicle is to be operated continuously at altitudes above 6,500 feet (2,000 m), the carburetor must be readjusted as described below to improve driveability and decrease exhaust emissions.

Warm up the engine to operating temperature. Stop and go driving for ten minutes is sufficient. Turn the pilot screw clockwise 1/4 turn. Adjust the idle speed to $1,200 \pm 100$ rpm with the throttle stop screw.

NOTE

This adjustment must be made at high altitude to ensure proper high altitude operation.

Attach the Vehicle Emission Control Information Update label as shown.

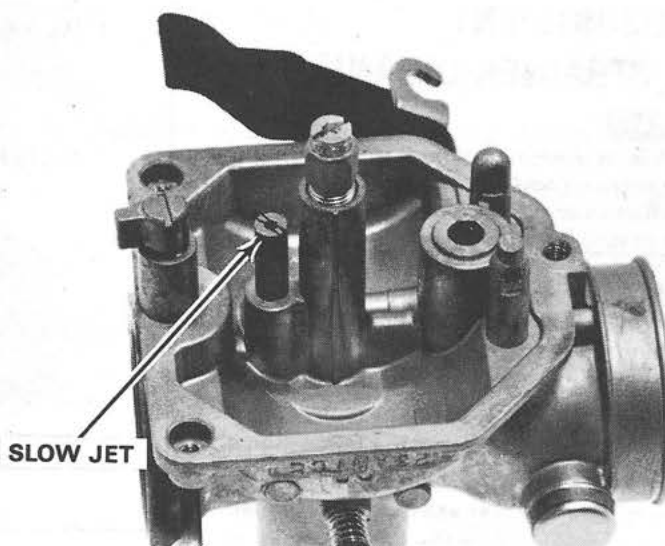
NOTE

- Instructions for obtaining Vehicle Emission Control Update labels are given in Service Newsletter No. 132.
- Do not attach the label to any part that can be easily removed from the vehicle.

CAUTION

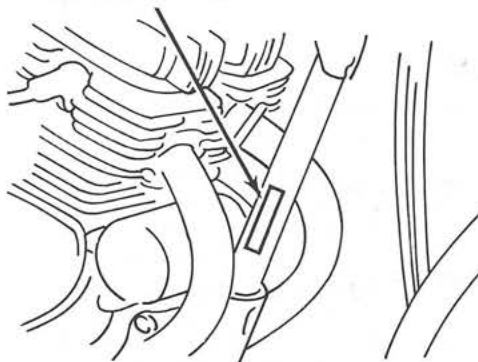
Operation at an altitude lower than 5,000 feet (1,500 meters) with the carburetor adjusted for high altitudes may cause the engine to idle roughly and stall.

When the vehicle is to be operated continuously below 5,000 feet (1,500 meters); turn the pilot screw counterclockwise to its original position against its stop and adjust the idle speed to $1,200 \pm 100$ rpm. Be sure to do these adjustments at low altitude.



VEHICLE EMISSION CONTROL INFORMATION UPDATE
HONDA MOTOR CO., LTD.
THIS VEHICLE HAS BEEN ADJUSTED TO
IMPROVE EMISSION CONTROL PERFORMANCE
WHEN OPERATED AT HIGH ALTITUDE
ALTITUDE PERFORMANCE ADJUSTMENT INSTRUCTIONS
ARE AVAILABLE AT YOUR AUTHORIZED HONDA DEALER

VEHICLE EMISSION CONTROL INFORMATION UPDATE LABEL





6. FUEL TANK

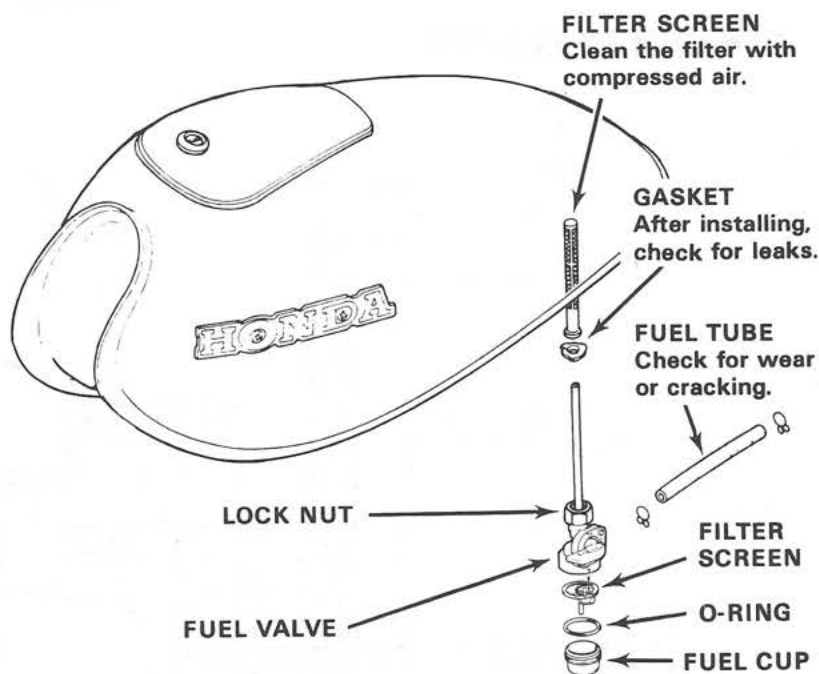
WARNING

*Gasoline is flammable.
Keep sparks and flame away during fuel
valve assembly.*

Remove the seat.
Turn the fuel valve "OFF" and disconnect the
fuel tube.
Remove the fuel tank.
Check that fuel flows freely through the fuel
valve.
If flow is restricted, clean the fuel strainer.

NOTE

- After assembly, make sure there are no
fuel leaks.
- Do not overtighten the fuel valve lock
nut.



7. REAR SUSPENSION

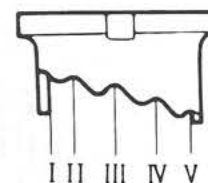
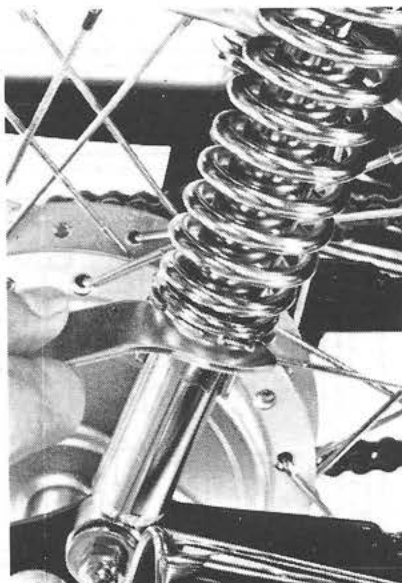
SHOCK ABSORBER

• INSTALLATION

Tighten the shock absorber bolts and nuts.

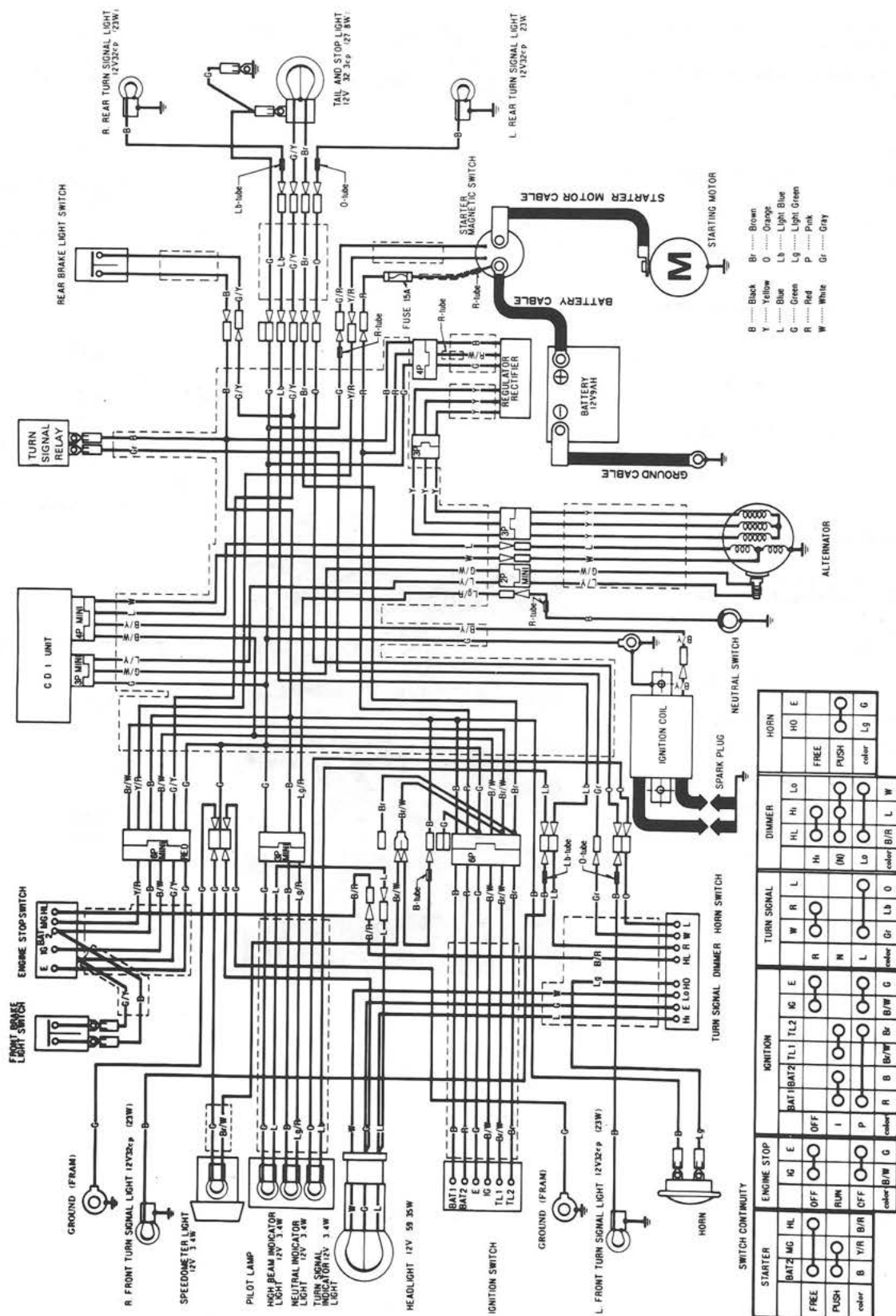
TORQUE: 30-40 N·m (3.0-4.0 kg-m,
22-29 ft-lb)

Adjust the right and left shock absorbers
equally with the spring adjuster.
Check shock absorber operation after installa-
tion.



**STANDARD
POSITION: I**

8. WIRING DIAGRAM



0030Z-465-8301



INTRODUCTION

This addendum contains service information for the 1982 CM250 Custom. Refer to the base shop manual and previous addendums for service information not included in this addendum.

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I. SPECIFICATIONS

	ITEM		
DIMENSIONS	Overall length		2030 mm (79.9 in)
	Overall width		810 mm (51.9 in)
	Overall height		1130 mm 944.5 in)
	Wheelbase		1350 mm (53.1 in)
	Seat height		750 mm (29.5 in)
	Footpeg height		315 mm (12.4 in)
	Ground clearance		165 mm (6.5 in)
	Dry weight		129kg (284.4 lbs)
FRAME	Type		Diamond
	F. suspension, travel		Telescopic fork, 140 mm (5.5 in)
	R. suspension, travel		Swingarm, 75 mm (3.0 in)
	F. tire size		3.25S18-4Pr
	R. tire size		110/90-16 59S
	Cold tire pressure		
	Up to 90 kg (200 lb) load	Front: Rear:	24 psi (175 kPa, 1.75 kg/cm ²) 24 psi (175 kPa, 1.75 kg/cm ²)
	Up to vehicle load limit	Front: Rear:	24 psi (175 kPa, 1.75 kg/cm ²) 32 psi (225 kPa, 2.25 kg/cm ²)
	F. brake, lining swept area		Internal expanding shoes, 110 cm ²
	R. brake, lining swept area		Internal expanding shoes, 123 cm ²
ENGINE	Fuel capacity		12.5 liter (3.3 US gal, 2.8 Imp. gal)
	Fuel reserve capacity		1.5 liter (0.4 US gal, 0.3 Imp. gal)
	Caster angle		60°40'
	Trail		112 mm (4.4 in)
	Front fork oil capacity		135 cc (4.8 oz) after draining
	Type		Air cooled 4-stroke OHC
	Cylinder arrangement		Parallel twin 15° inclined from vertical
	Bore and stroke		53 x 53 mm (2.1 x 2.1 in)
	Displacement		234 cc (14.3 cu-in)
	Compression ratio		9.4:1
	Valve train		Chain driven overhead camshaft
	Maximum horsepower		22 BHP @ 8,500 rpm
	Maximum torque		2.0 kg-m @ 4,000 rpm (14.5 ft-lb @ 4,000 rpm)
	Oil capacity		1.8 liter (1.89 US qt)
	Lubrication system		Forced and wet sump
	Air filtration		Oiled polyurethane foam
	Cylinder compression		12.0 kg-cm ² (170.4 psi) @ 7,000 rpm
			At 0 mm lift At 1 mm lift
	Intake valve	Opens	52° BTDC 5° BTDC
		Closes	104° ABDC 35° ABDC
	Exhaust valve	Opens	86° BBDC 35° BBDC
		Closes	62° ATDC 5° ATDC
	Valve clearance (cold)	Intake	0.05 mm (0.002 in)
		Exhaust	0.05 mm (0.002 in)
	Idle speed		1,300 rpm ± 100 rpm



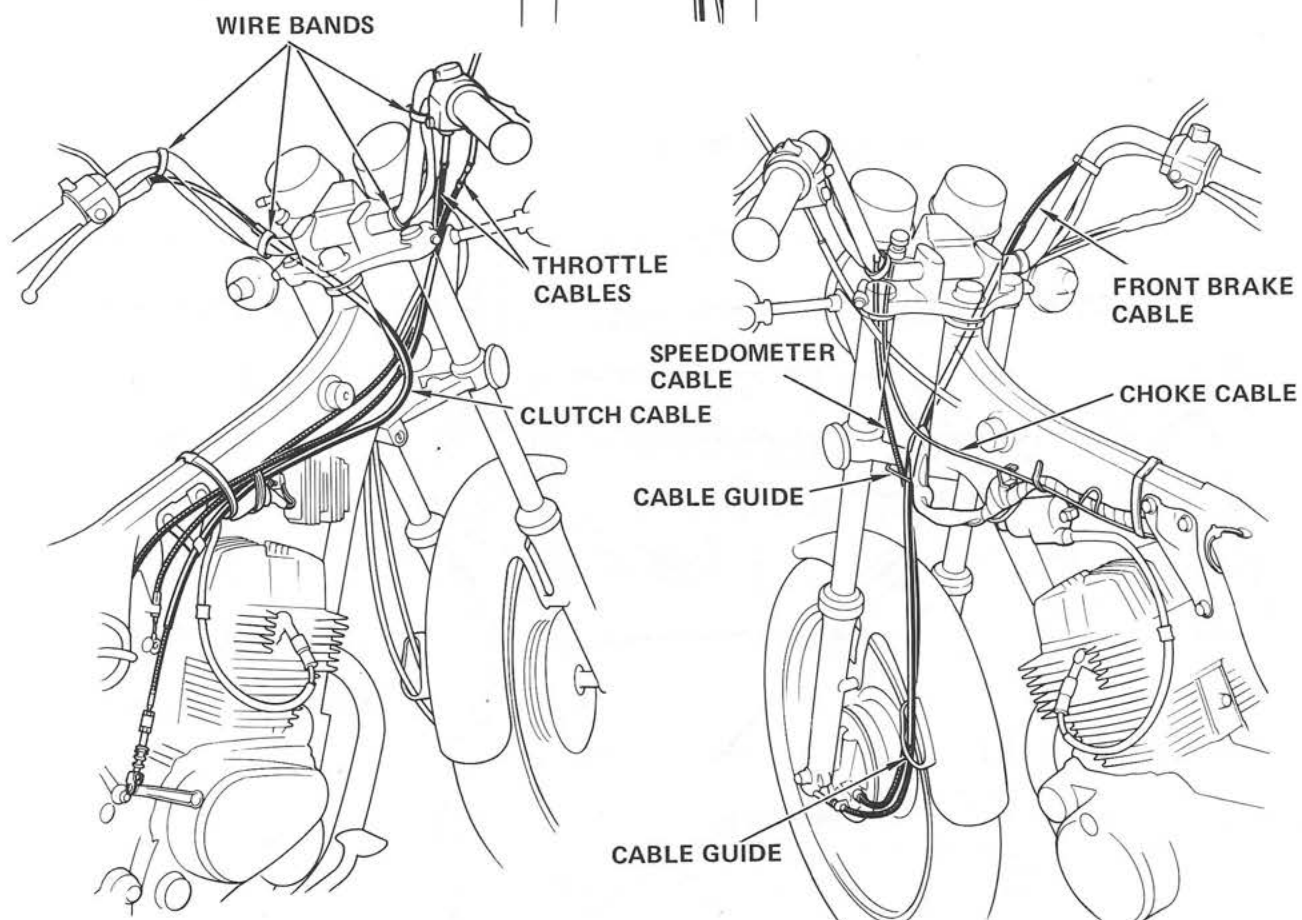
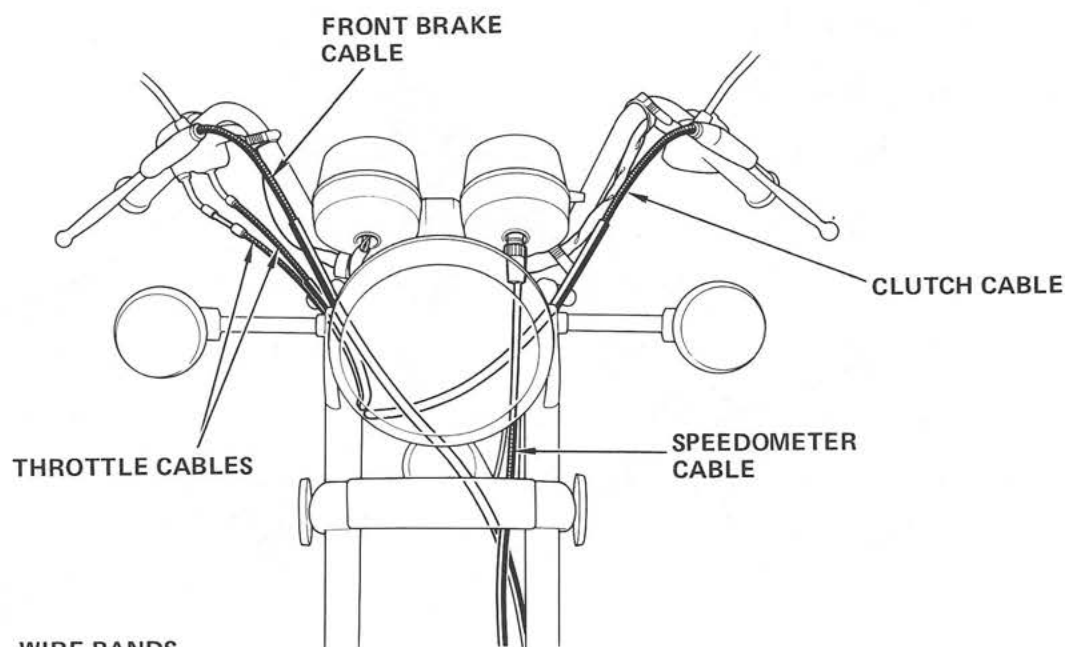
	ITEM	
CARBURETION	Carburetor type Identification number Pilot screw initial opening Float level	VB VB15A 1 5/8 turns out 15.5 mm (0.61 in)
DRIVE TRAIN	Clutch Transmission Primary reduction Ger ratio I Gear ratio II Gear ratio III Gear ratio IV Ger ratio V Final reduction Gearshift pattern	Wet, multi-plate type 5-speed constant-mesh 3.631 (69/19) 2.846 (37/13) 1.777 (32/18) 1.333 (28/21) 1.083 (26/24) 0.913 (21/23) 2.286 (32/14) Left foot operated return spring, 1-N-2-3-4-5
ELECTRICAL	Ignition Ignition timing F mark Full advance Starting system Alternator Battery capacity Spark plug Standard For cold climate (below 5°C, 41°F) For extended high speed riding Spark plug gap	CDI 5° BTDC at idle (1,300 rpm) 28.5—31.5° BTDC at 3,500 rpm Starter motor AC generator 0—19 KW @ 5,000 rpm 12V—9 AH U22FSR-U (ND), CR7HS (NGK) U20FSR-U (ND), CR6HS (NGK) U24FSR-U (ND), CR8HS (NGK) 0.6—0.7 mm (0.024—0.028 in)
LIGHTS	Headlight (High/Low) Tail/stoplight Turn signal Instrument light Neutral indicator Turn signal indicator High beam indicator	50/35W 3/32 cp SAE No. 1157 32/32 cp SAE No. 1073 2 cp SAE No. 158 2 cp SAE No. 158 2 cp SAE No. 158 2 cp SAE No. 158

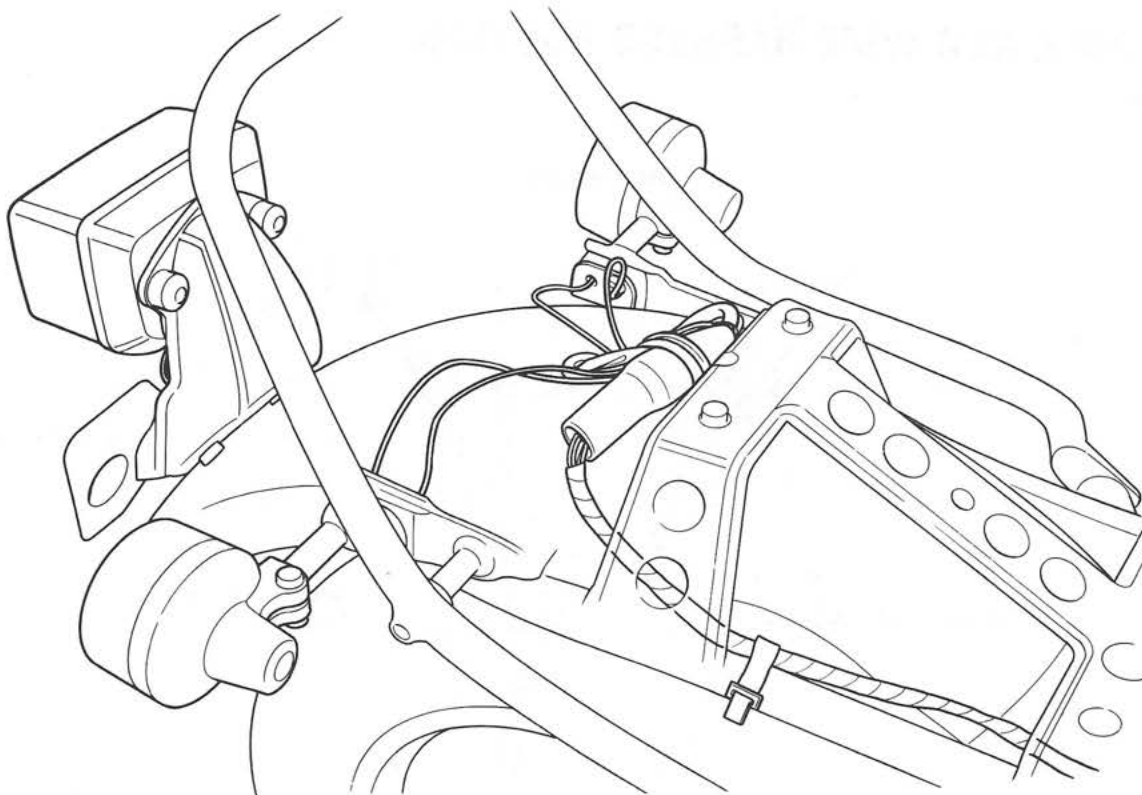
**II. TOOLS**

DESCRIPTION	TOOL NUMBER	APPLICABILITY
Carburetor Float Level Gauge	07401-0010000	Float level inspection.
Valve Adjuster	089201-200-000	Use to adjust/hold the 3 mm square drive valve adjustment screw. Use a commercially available off-set box end wrench for lock nut.
Valve Guide Driver	07742-0010100	Valve guide removal. Supersedes 07942-3290100 which can still be used.
Valve Spring Compressor	07757-0010000	Valve removal/installation. Supersedes 07957-3290001 which can still be used.
Piston Ring Compressor	07954-2350000	Piston/cylinder installation.
Piston Base	07958-2500001	Support piston for cylinder installation.
Valve Guide Reamer	07984-0980000	Valve guide I.D. sizing
Valve Guide Driver	07742-0020200	Valve guide installation. Supersedes 07942-3290200, which can still be used.
Universal Holder	07725-0030000	Hold clutch, assist oil pump/drive gear lock nut removal/installation (torquing).
Rotor Puller	07933-2160000	Flywheel removal
Attachment, 32 x 35 mm	07746-0010100	Mainshaft bearing # 6202, left crankcase, installation. Use with 07746-0040300. Attachment 07945-0450000 could also be used.
Attachment, 42 x 47 mm	07746-0010300	Countershaft bearing # 6204, and front and rear wheel bearing #6302 installation
Attachment, 52 x 55 mm	07746-0010400	Mainshaft bearing # 6006, right crankcase, installation. 07946-9350200 could also be used.
Attachment, 62 x 68 mm	07746-0010500	Crankshaft bearing # 6305 installation. Use with 07746-0040600.
Pilot, 15 mm	07746-0040300	Use with attachments to install mainshaft and front and rear wheel bearings.
Pilot, 25 mm	07746-0040600	Use with 07746-0010500.
Driver	07749-0010000	Use with attachments and pilots to install bearings.
Attachment	07946-3710200	Crankshaft bearing # 6305 removal.
Bearing Remover	M9360-277-91774	Upper & lower steering race removal.
Attachment, 37 x 40 mm	07746-0010200	Upper & lower steering race installation. Use with 079749-0010000.
Steering Stem Socket	07916-3710100	Steering stem top thread nut removal/installation.
Fork Seal Driver	07947-3550000	Fork seal installation.
Rear Shock Absorber Spring Compressor	07959-3290001	Rear shock absorber spring removal/installation. Supersedes 07959-3290000.

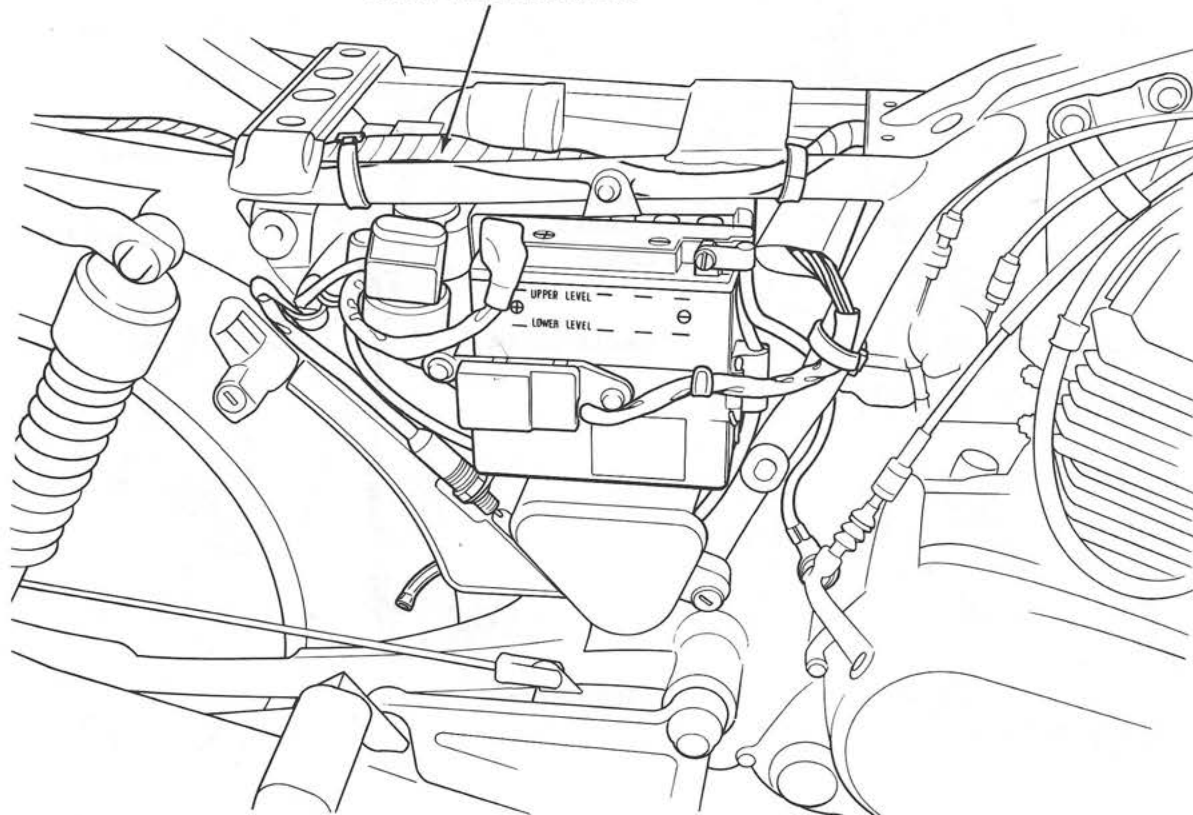


IV. CABLE AND WIRE HARNESS ROUTING





MAIN WIRE HARNESS





IV. MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION at each scheduled maintenance period.

I: Inspect and Clean, Adjust, Lubricate, or Replace if necessary.

C: Clean

R: Replace

A: Adjust

L: Lubricate

FREQUENCY ITEM		WHICHEVER COMES FIRST	ODOMETER READING (NOTE 3)				
			600 mi (1,000 km)	4,000 mi (16,400 km)	8,000 mi (12,800 km)	12,000 mi (19,200 km)	Refer to page
EMISSION RELATED ITEMS	* FUEL LINE			I	I	I	3-3
	* FUEL STRAINER		C	C	C	C	22-5
	* THROTTLE OPERATION		I	I	I	I	3-7
	* CARBURETOR-CHOKE			I	I	I	3-8
	AIR CLEANER	NOTE 1		C	C	C	3-2
	CRANKCASE BREATHER	NOTE 2		C	C	C	3-3
	SPARK PLUG			R	R	R	22-6
	* VALVE CLEARANCE		I	I	I	I	3-4
	ENGINE OIL	YEAR	R	REPLACE EVERY 2,000 mi (3,200 km)			22-5
	* ENGINE OIL FILTER SCREEN				C		2-2
NON-EMISSION RELATED ITEMS	* CARBURETOR-IDLE SPEED		I	I	I	I	3-8
	DRIVE CHAIN		I, L EVERY 300 mi (500 km)				23-8
	BATTERY	MONTH	I	I	I	I	22-11
	BRAKE SHOE WEAR			I	I	I	3-11
	BRAKE SYSTEM		I	I	I	I	3-12
	* BRAKE LIGHT SWITCH		I	I		I	3-14
	* HEADLIGHT AIM		I	I	I	I	3-15
	CLUTCH		I	I	I	I	3-15
	SIDE STAND			I	I	I	3-16
	* SUSPENSION		I	I	I	I	3-17, 22-8
	* NUTS, BOLTS, FASTENERS		I	I	I	I	3-18
	** WHEELS/SPOKES		I	I	I	I	3-17, 3-18
	** STEERING HEAD BEARING		I		I		3-18

* Should be serviced by an authorized Honda dealer, unless the owner has proper tools and service data and is mechanically qualified.

** In the interest of safety, we recommend these items be serviced *only* by an authorized Honda dealer.

NOTES: 1. Service more frequently when riding in dusty areas.
 2. Service more frequently when riding in rain or at full throttle.
 3. For higher odometer readings, repeat at the frequency intervals established here.



V. INSPECTION/ ADJUSTMENT

DRIVE CHAIN

Place the motorcycle on its center stand, with the transmission in neutral and ignition switch OFF.

Turn the rear wheel slowly and inspect the drive chain and sprockets for damage or wear. A drive chain with damaged rollers, loose pins, or missing O-rings must be replaced. Replace any sprocket which is damaged or excessively worn.

Lubricate the drive chain.

NOTE

Never install a new drive chain on worn sprockets or a worn chain on new sprockets. Both chain and sprockets must be in good condition, or the new replacement chain or sprockets will wear rapidly.

When a new drive chain is installed, a new adjuster wear label must be attached according to the replacement chain directions.

CLEANING AND LUBRICATION

Clean the drive chain with kerosene and wipe dry.

CAUTION

Do not use a steam cleaner, high pressure washers or solvents as these will damage the O-rings.

Lubricate the drive chain with SAE 80 or 90 gear oil.

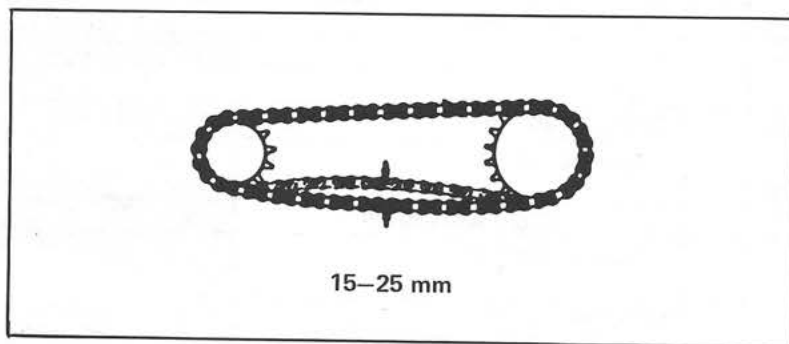
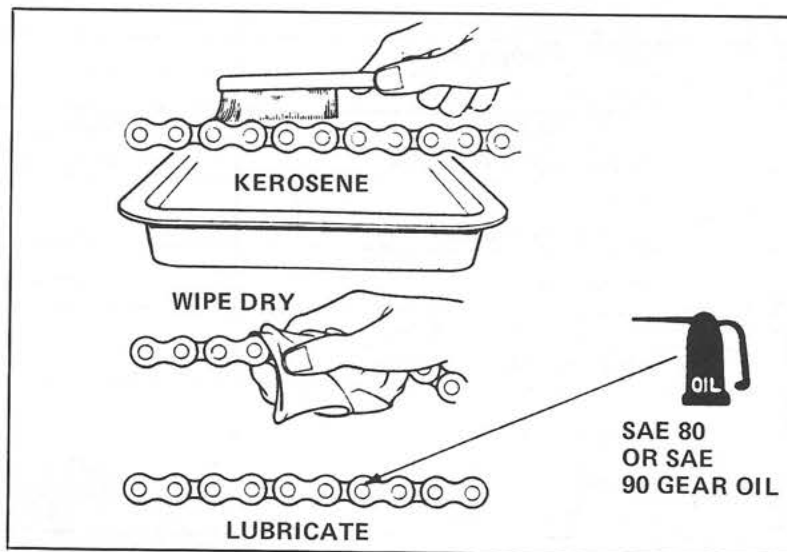
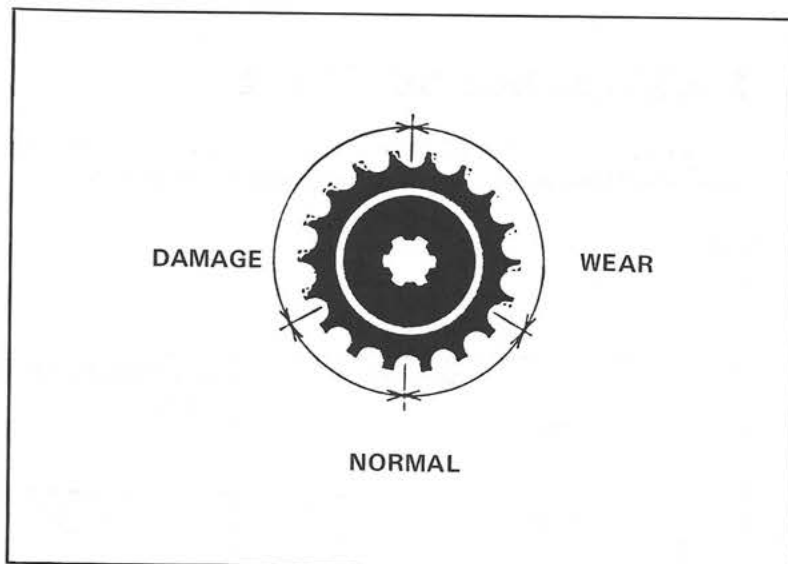
CAUTION

Do not use commercial aerosol chain lubricants. They contain solvents which could damage the O-rings.

ADJUSTMENT

Measure the amount of drive chain free play midway between the sprockets on the lower chain run.

FREE PLAY: 15—25 mm (5/8—1 in)





To adjust:

Loosen the rear axle nut.

Loosen the lock nuts on both adjusting bolts.

Turn both adjusting bolts an equal number of turns until the correct drive chain free play is obtained.

CAUTION

Be sure that the index mark aligns with the same graduation on the scale on both sides of the swing arm.

Check the chain wear label. If the red zone on the label aligns with the rear of the swingarm, the chain is worn excessively and must be replaced.

Tighten the axle nut.

**TORQUE: 55—65 N·m (5.5—6.5 kg-m,
40—47 ft-lb)**

Check that the rear wheel rotates freely by turning it by hand.

IGNITION TIMING

NOTE

The Capacitive Discharge Ignition system is factory pre-set and cannot be adjusted. To inspect the function of the CDI components, ignition timing inspection procedures are given here.

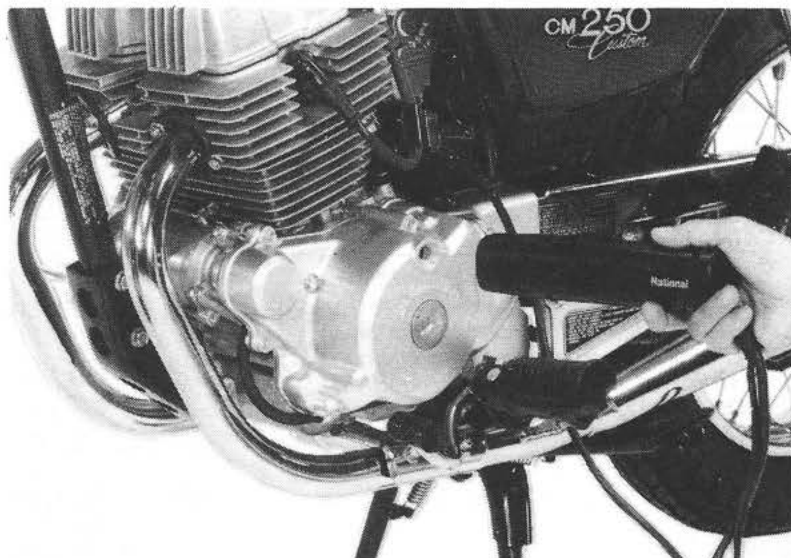
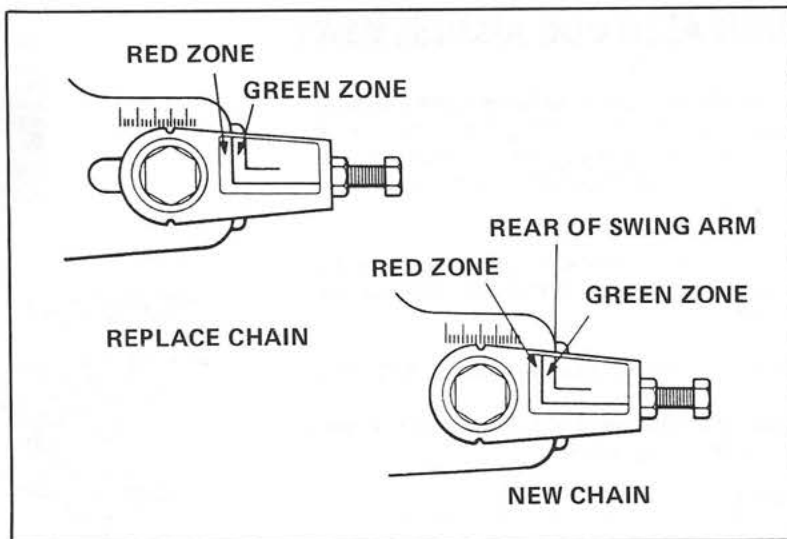
Remove the timing hole cap.

Connect a tachometer and timing light.

Start the engine and allow it to idle (1,300 rpm).

Timing is correct if the index mark aligns with the "F" mark at idle.

If the ignition timing is incorrect, check the CDI unit and pulse generator, and replace faulty parts. (Refer to Ignition System, page 23-14.)





HIGH ALTITUDE ADJUSTMENT

When the vehicle is to be operated continuously above 6,500 feet (2,000 meters) the carburetor must be readjusted as described below to improve driveability and decrease exhaust emissions.

Warm up the engine to operating temperature. Stop and go driving for 10 minutes is sufficient.

Turn the pilot screw clockwise 1/2 turn.

Adjust the idle speed to $1,300 \pm 100$ rpm with the throttle stop screw.

NOTE

These adjustments must be made at high altitude to ensure proper high altitude operation.

Attach the Vehicle Emission Control Information Update label as shown.

NOTE

Do not attach label to any part that can be easily removed from the vehicle.

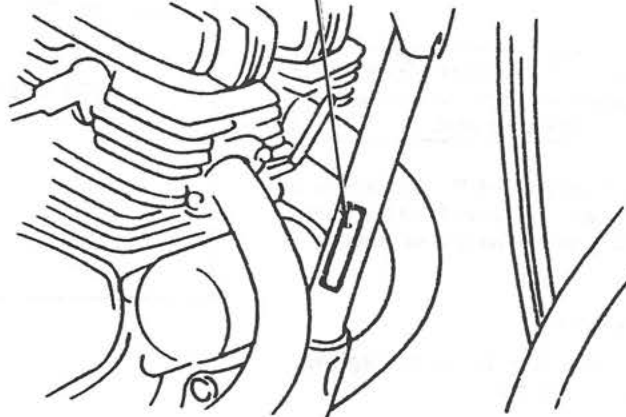
Operation at an altitude lower than 5,000 feet (1,500 meters) with the carburetor adjusted for high altitudes may cause the engine to idle roughly and stall.

CAUTION

When the vehicle is to be operated continuously below 5,000 feet (1,500 meters); turn the pilot screw counter-clockwise to its original position against its stop and adjust the idle speed to $1,300 \pm 100$ rpm. Be sure to do these adjustments at low altitude.

VEHICLE EMISSION CONTROL INFORMATION UPDATE LABEL

VEHICLE EMISSION CONTROL INFORMATION UPDATE
HONDA MOTOR CO., LTD.
THIS VEHICLE HAS BEEN ADJUSTED TO
IMPROVE EMISSION CONTROL PERFORMANCE
WHEN OPERATED AT HIGH ALTITUDE.
ALTITUDE PERFORMANCE ADJUSTMENT INSTRUCTIONS
ARE AVAILABLE AT YOUR AUTHORIZED HONDA DEALER





V. CARBURETOR

WARNING

Gasoline is flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.

•WORKING PRACTICE

When disassembling fuel system parts, note the locations of the O-rings. Replace them with new ones on reassembly. The float bowl has a drain plug that can be removed to drain residual gasoline.

•SPECIFICATIONS

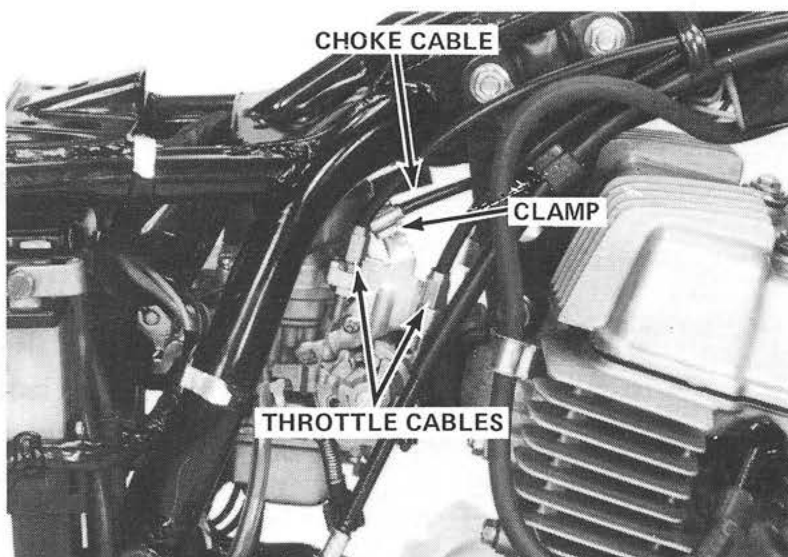
ITEM	DESCRIPTION
Venturi diameter	26 mm (1.02 in)
Carburetor identification no.	VB15A
Float level	15.5 mm (0.61 in)
Idle speed	1,300 ± 100 rpm
Throttle grip free play	2—6 mm (1/8—1/4 in)
Main jet	# 68 (Primary) #138 (Secondary)

CARBURETOR REMOVAL

Turn the fuel valve OFF and disconnect the fuel tube. Remove the fuel tank.

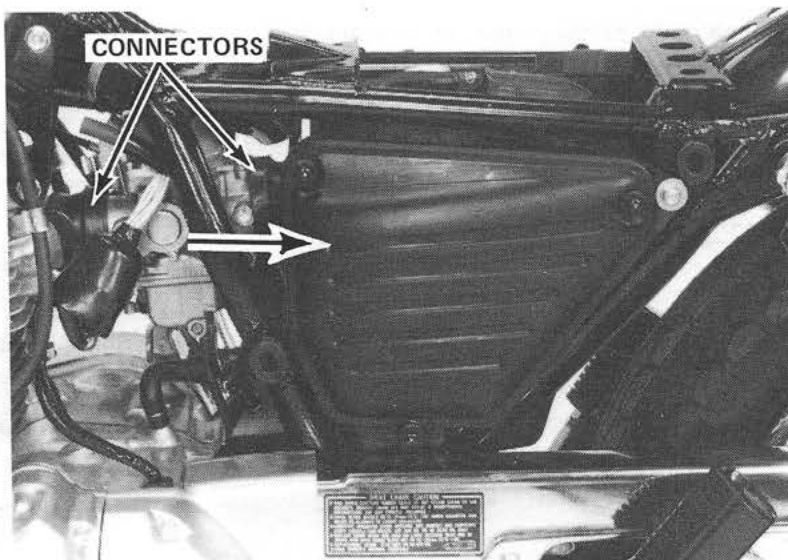
Reach through the hole in the frame and loosen the choke cable clamp, then remove the cable. Remove both throttle cables.

Remove the bolts attaching the clutch cable bracket to the right crankcase cover.



Remove the bands from the carburetor connectors.

Push the carburetor toward the airbox while carefully twisting the front end out of the intake manifold connector. Remove the carburetor from the right side.





VACUUM CYLINDER DISASSEMBLY

Remove the vacuum cylinder from the carburetor body.

Carefully lift the vacuum piston out with its needle and compression spring.

NOTE

Inspect the vacuum piston and cylinder for wear, nicks, scratches or other damage. Make sure that the piston moves up and down freely in the cylinder.

Remove the full open stopper and the needle set screw.

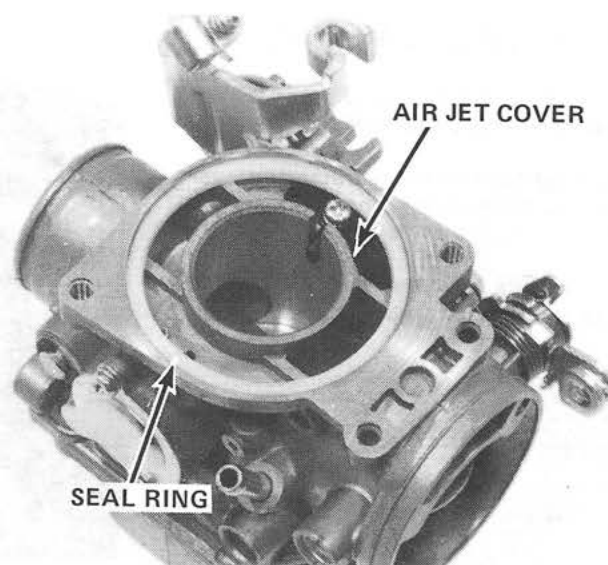
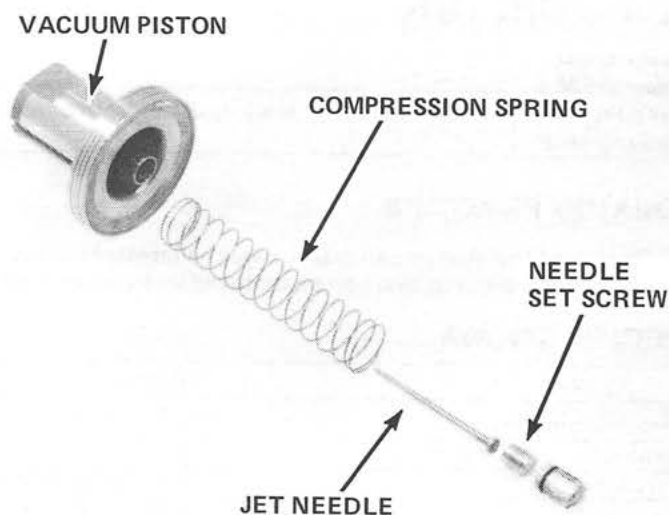
Separate the jet needle from the piston.

NOTE

Inspect the needle and seat for deposits, grooves, or other damage.

Carefully lift the seal ring off the carburetor body.

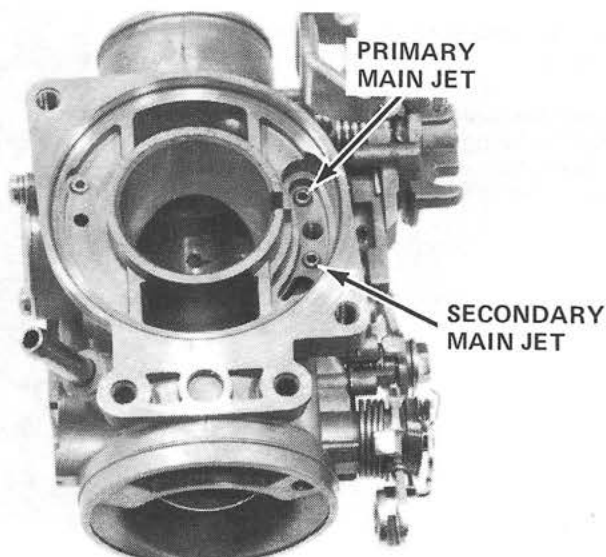
Remove the air jet cover.



Blow open the primary main jet, secondary main jet and slow jet with compressed air.

NOTE

Never clean carburetor jets with wire or drills. This will enlarge the openings and result in excessive fuel consumption.



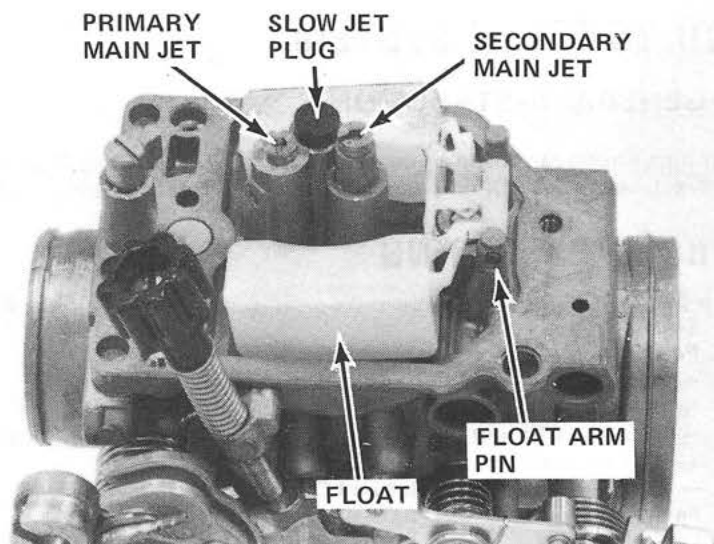


FLOAT CHAMBER DISASSEMBLY

Remove the float chamber body, secondary main jet, primary main jet, and the slow jet plug.

Pull out the float arm pin with a pair of pliers.

Remove the float and float valve.

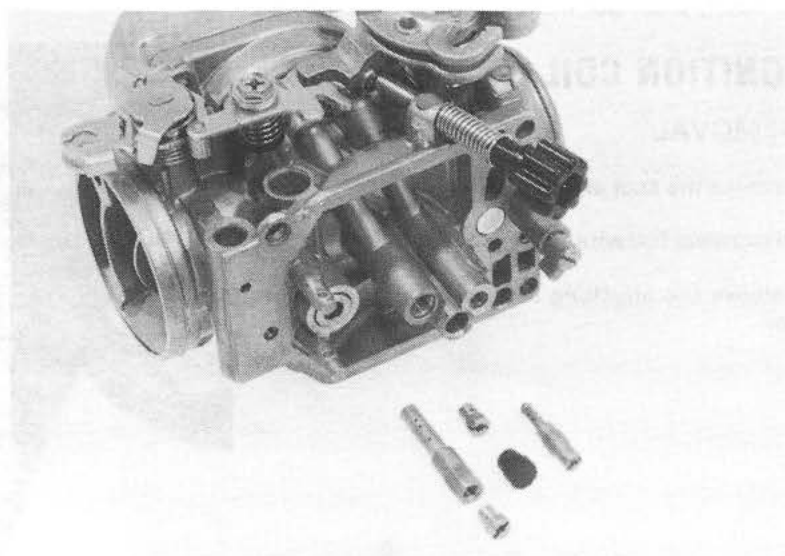


Remove the needle jet holder and the slow jet.

Blow open all jets and body openings with compressed air.

NOTE

Before removing the pilot screw, record the number of turns until it seats.



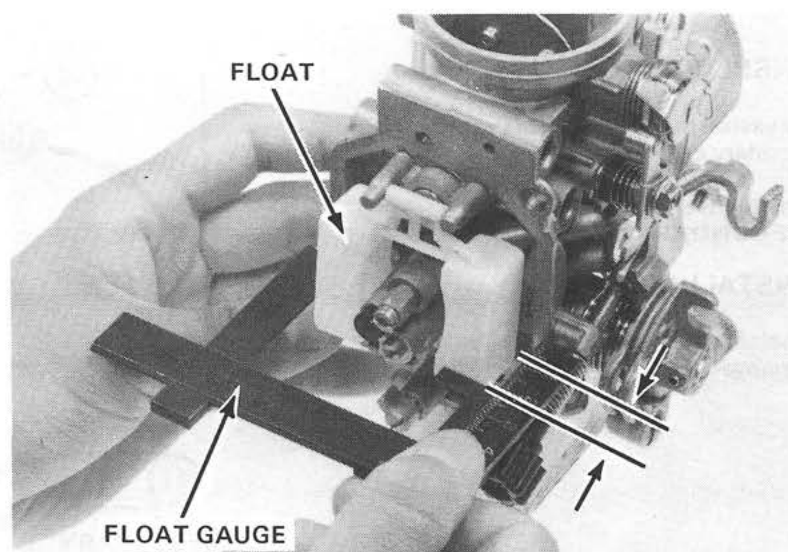
FLOAT LEVEL ADJUSTMENT

To adjust the float level, bend the float arm carefully until the float tip just contacts the float valve.

FLOAT LEVEL: 15.5 mm (0.61 in)

CARBURETOR ASSEMBLY/ INSTALLATION

Reverse the disassembly procedures.





VII. IGNITION SYSTEM

• GENERAL INSTRUCTION

Ignition timing cannot be adjusted since the CDI (Capacitive Discharge ignition) unit is non-adjustable. If ignition timing is incorrect, check the CDI unit and AC generator and replace the faulty parts.

TROUBLESHOOTING

No Spark at Plug

1. Engine stop switch OFF
2. Poorly connected, broken or shorted wire
 - Between AC generator and ignition coil
 - Between CDI unit and engine stop switch
 - Between CDI unit and ignition coil
 - Between ignition coil and plug
 - Between pulse generator and CDI
3. Faulty ignition coil
4. Faulty CDI unit
5. AC generator faulty
6. Faulty pulse generator

Engine Starts but Runs Poorly

1. Ignition primary circuit
 - Faulty ignition coil
 - Loose or bare wire
 - Faulty pulse generator
2. Secondary circuit
 - AC generator faulty
 - CDI unit faulty
 - Faulty pulse generator

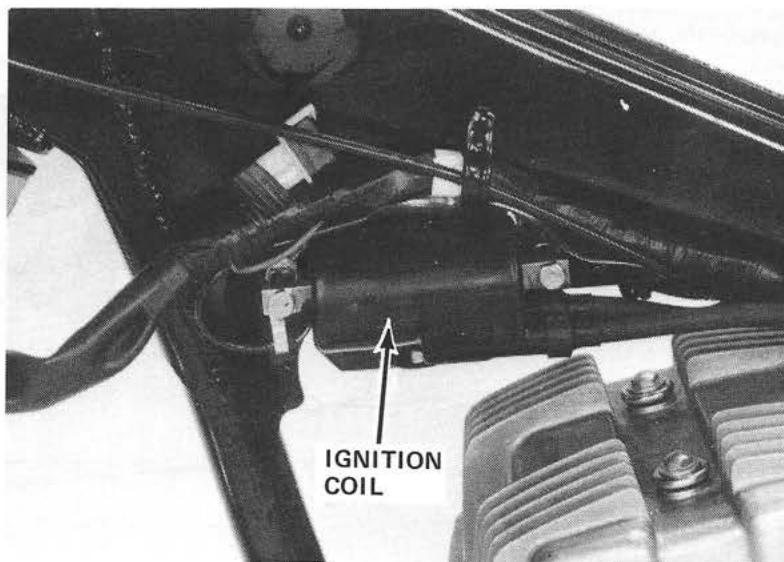
IGNITION COIL

REMOVAL

Remove the seat and fuel tank.

Disconnect the wire leads.

Remove the attaching bolts and remove the coil.



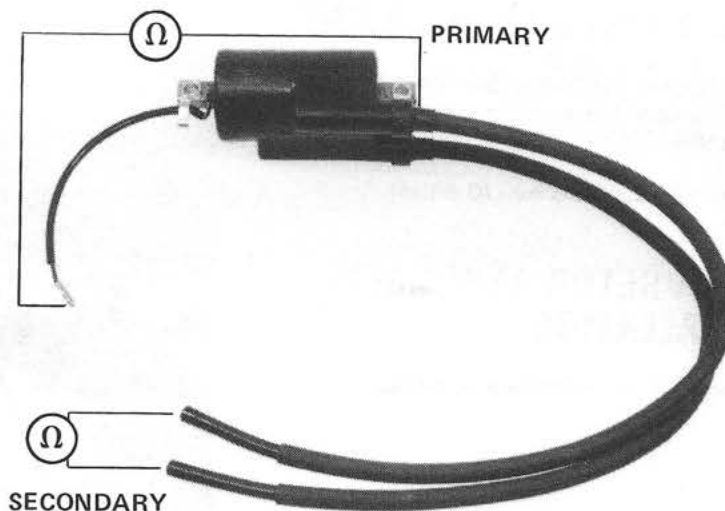
INSPECTION

Measure the resistance of the primary and secondary coil.

PRIMARY 0.5—0.6 Ω
SECONDARY: 7—9 k Ω

INSTALLATION

Install the ignition coil in the reverse order of removal.





AC GENERATOR

NOTE

It is not necessary to remove the stator coil to make this test.

CHARGING COIL INSPECTION

The charging coil is normal if there is continuity between the yellow wires.

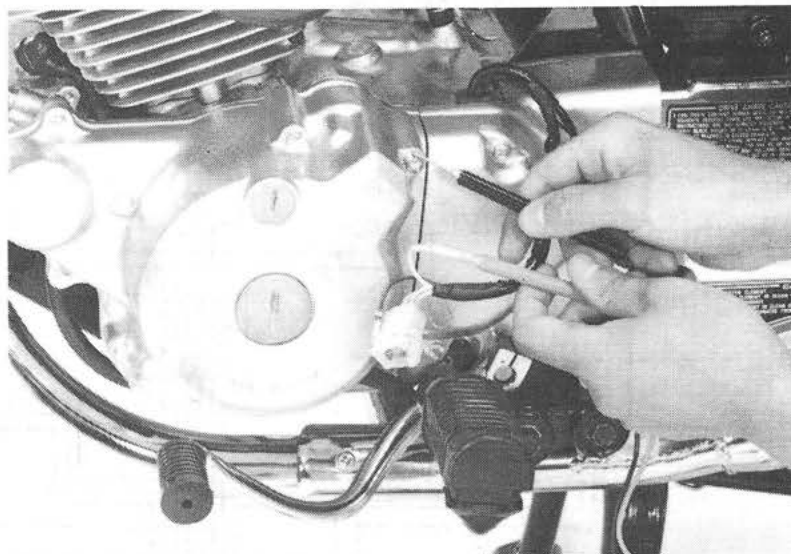
EXCITER COIL INSPECTION

The exciter coil is normal if there is continuity between the white wire and ground, and the white and blue wires.

RESISTANCE:

White and ground: 305 Ω

White and blue: 90 Ω



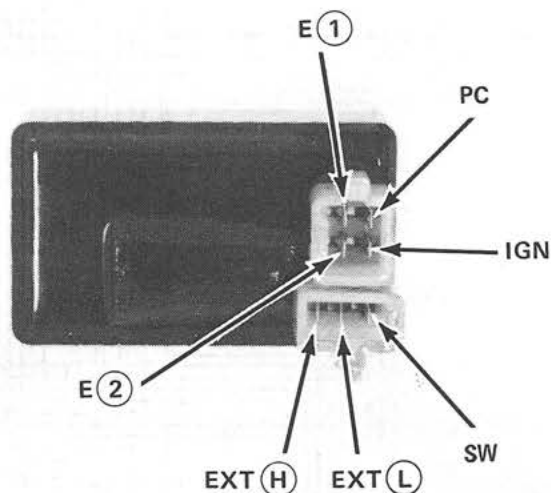
CDI UNIT

INSPECTION

Disconnect the wires and check continuity of the CDI terminals. Replace the CDI unit if the readings are not within the limits shown in the table.

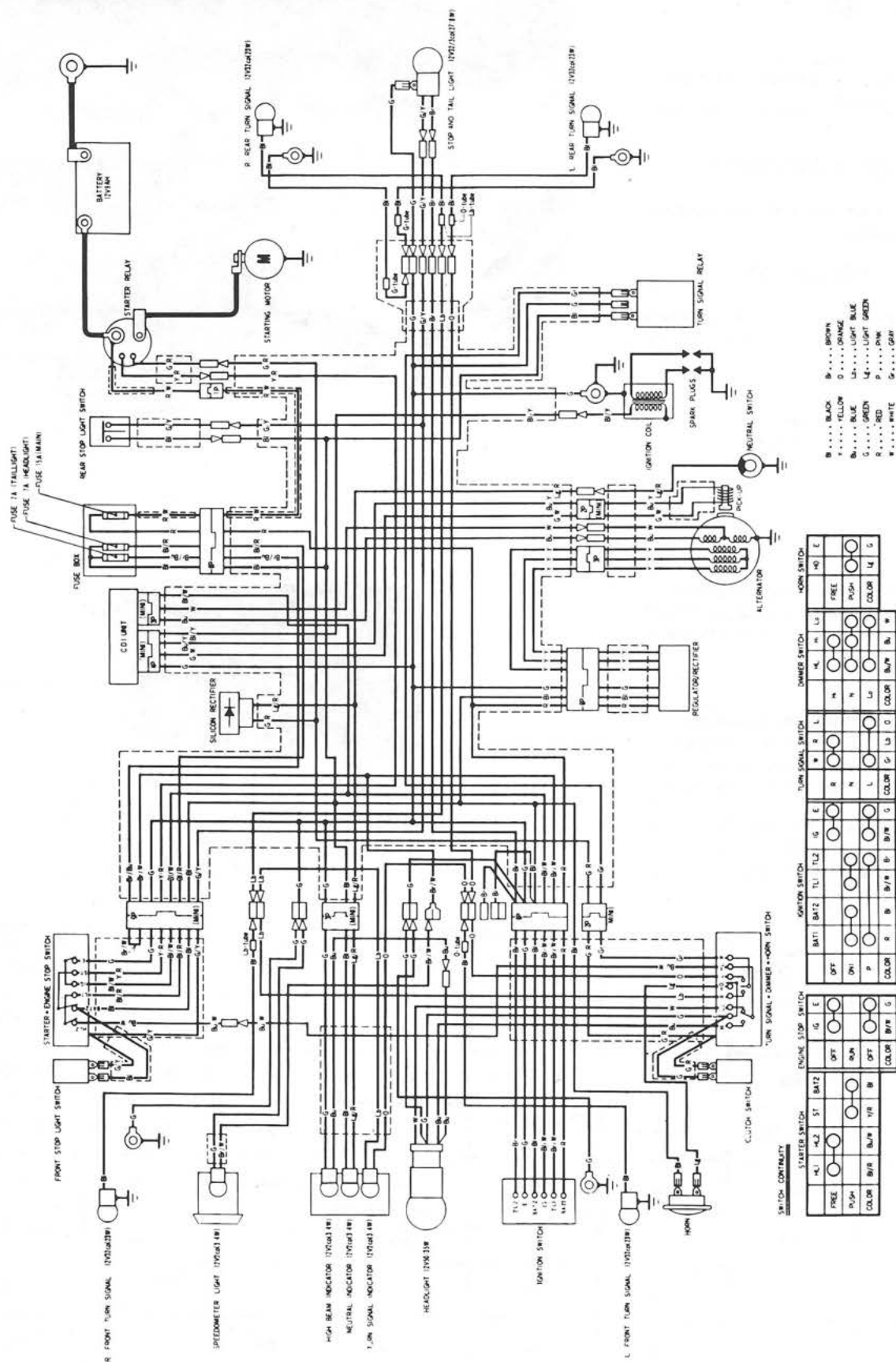
NOTE

- The CDI unit is fully transistorized.
- For accurate testing, it is necessary to use a specified electric tester. Use of an improper tester may give false readings.
- Use a SANWA ELECTRIC TESTER (P/N 07308-0020000) or KOWA ELECTRIC TESTER (TH-5H).



RANGE: SANWA: x K Ω
KOWA: x 100 Ω

$\ominus$ / $\oplus$	Green E ①	Green/White E ②	Blue/Yellow PC	Black/Yellow IGN	Blue EXT (H)	White EXT (L)	Black/White SW
Green E ①		0	0.5-50	∞	∞	0.3-30	1-100
Green/White E ②	∞		0.5-50	∞	∞	0.3-30	1-100
Blue/Yellow PC	0.5-50	0.5-50		∞	∞	1-100	2-100
Black/Yellow IGN	∞	∞	∞		∞	∞	∞
Blue EXT (H)	∞	∞	∞	∞		∞	10-1000
White EXT (L)	∞	∞	∞	∞	∞		∞
Black/White SW	∞	∞	∞	∞	∞	∞	



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INTRODUCTION

This addendum contains service information for the 1983 CM250C. Refer to the base shop manual and previous addendums for service information not included in this addendum.

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HONDA MOTOR CO., LTD.
Service Publications Office

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I. SPECIFICATIONS

This addendum lists only the specifications which are new for 1983. Refer to the 1982 CM250C addendum for information not covered here.

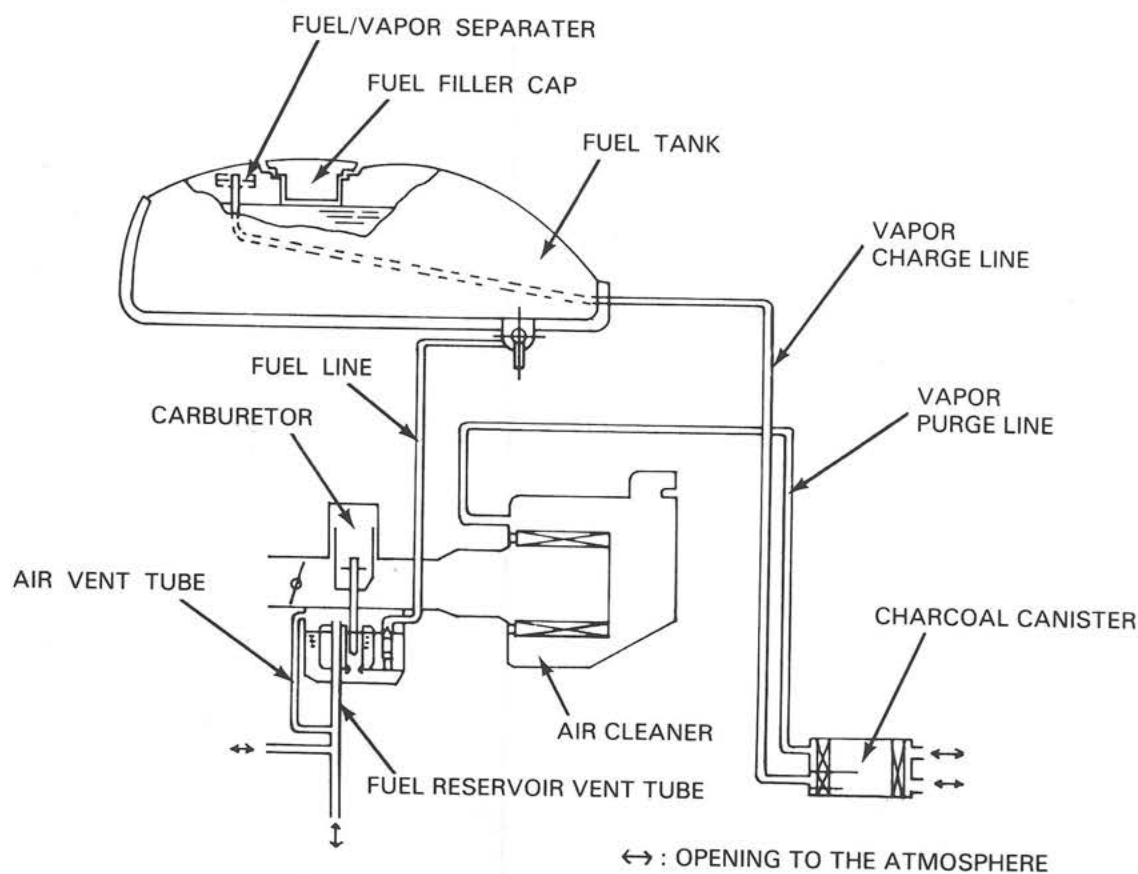
DIMENSIONS	Wheelbase Seat height	1345 mm (53.0 in) 730 mm (28.7 in)
CARBURETION	Identification number Pilot screw initial opening	VB17A 2 3/4 turns out
DRIVE TRAIN	Final reduction	2.300 (Belt drive) driven/drive pulley (46/20)

II. EMISSION CONTROL SYSTEM

•EVAPORATIVE EMISSION CONTROL SYSTEM (CALIFORNIA ONLY)

This motorcycle complies with the California Air Resources Board (CARB) requirements for evaporative emissions regulations.

Fuel vapor from the fuel tank is directed into the charcoal canister where it is adsorbed and stored while the engine is stopped. When the engine is running, fuel vapor in the charcoal canister is drawn into the engine through the air cleaner and carburetor.



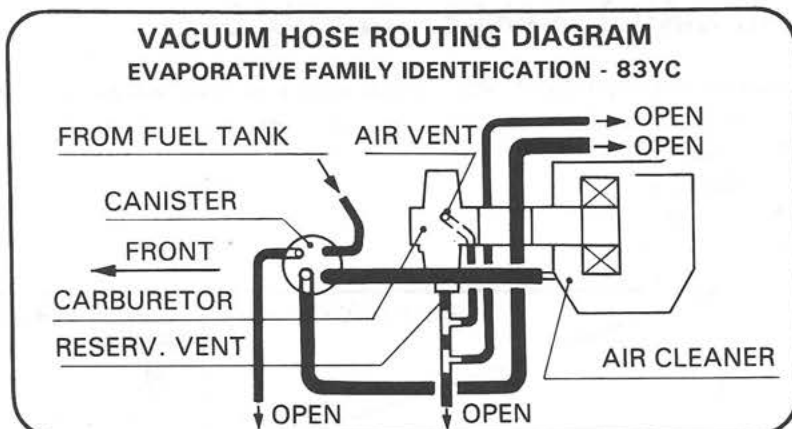


• **VACUUM HOSE ROUTING LABEL
(CALIFORNIA ONLY)**

A Vacuum Hose Routing label is on the inside of the frame right side cover. Route the vacuum hoses as described on this label.

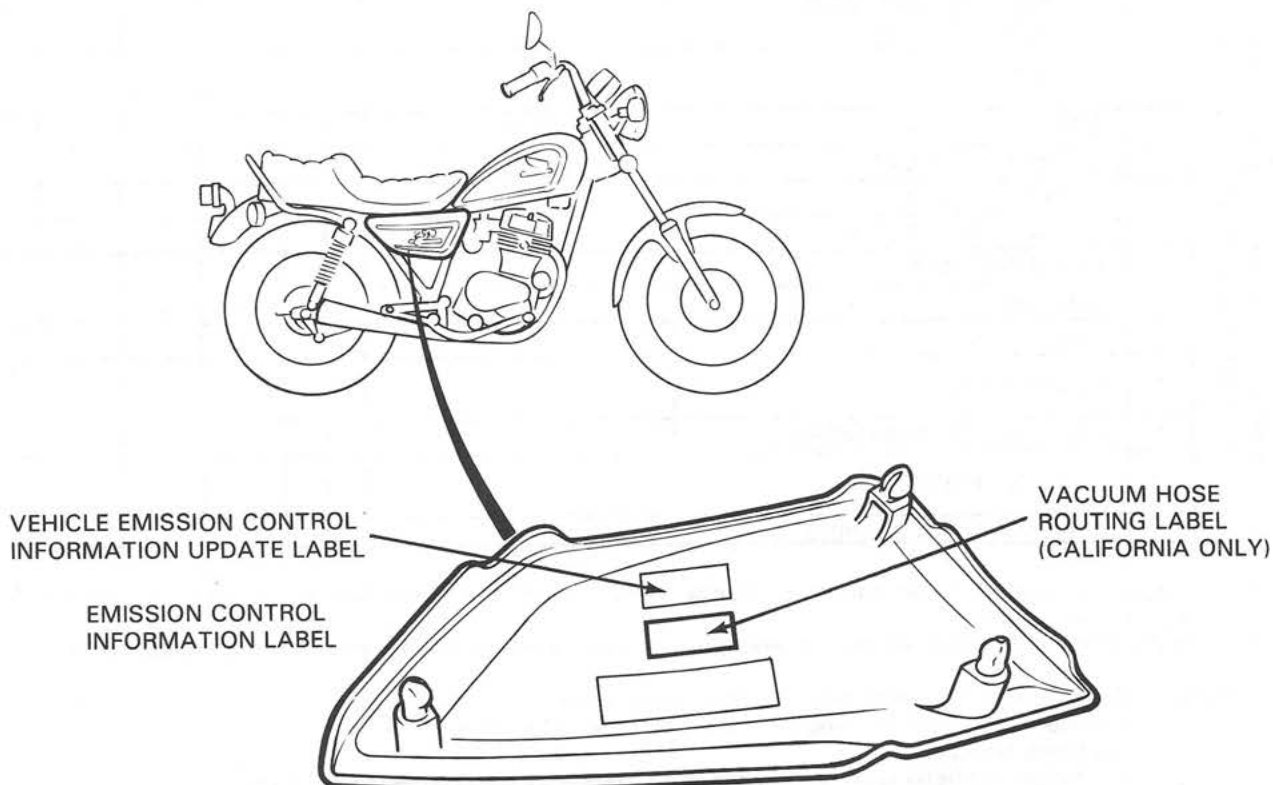
• **EMISSION CONTROL
INFORMATION LABEL**

The Vehicle Emission Control Information label is on the inside of the frame right side cover.



• **VEHICLE EMISSION CONTROL
INFORMATION UPDATE LABEL**

After making a high altitude carburetor adjustment (page 23-10) be sure to attach a Vehicle Emission Control Information Update label to the inside of the frame right side cover. Instructions for obtaining Vehicle Emission Control Update labels are given in Service Newsletter No. 132.



III. MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION at each scheduled maintenance period.

I: Inspect and Clean, Adjust, Lubricate, or Replace if necessary.

C: Clean

R: Replace

A: Adjust

L: Lubricate

	ITEM	FREQUENCY	WHICHEVER COMES FIRST ↓	ODOMETER READING (NOTE 4)				
		EVERY		600 mi (1,000 km)	4,000 mi (16,400 km)	8,000 mi (12,800 km)	12,000 mi (19,200 km)	Refer to page
EMISSION RELATED ITEMS	* FUEL LINE				I	I	I	3-3
	* FUEL STRAINER			C	C	C	C	22-5
	* THROTTLE OPERATION			I	I	I	I	3-7
	* CARBURETOR-CHOKE				I	I	I	3-8
	AIR CLEANER	NOTE 1			C	C	C	3-2
	CRANKCASE BREATHER	NOTE 2			C	C	C	3-3
	SPARK PLUG				R	R	R	22-6
	* VALVE CLEARANCE			I	I	I	I	3-4
	ENGINE OIL	YEAR		R	REPLACE EVERY 2,000 mi (3,200 km)			22-5
	* ENGINE OIL FILTER SCREEN					C		2-2
	* CARBURETOR-IDLE SPEED			I	I	I	I	3-8 23-11
	EVAPORATIVE EMISSION CONTROL SYSTEM	NOTE 3					I	24-5
NON-EMISSION RELATED ITEMS	DRIVE BELT			I, EVERY 300 mi (500 km)				
	BATTERY	MONTH		I	I	I	I	22-11
	BRAKE SHOE WEAR				I	I	I	3-11
	BRAKE SYSTEM			I	I	I	I	3-12
	* BRAKE LIGHT SWITCH			I	I		I	3-14
	* HEADLIGHT AIM			I	I	I	I	3-15
	CLUTCH			I	I	I	I	3-15
	SIDE STAND				I	I	I	3-16
	* SUSPENSION			I	I	I	I	3-17 22-8
	* NUTS, BOLTS, FASTENERS			I	I	I	I	3-18
	** WHEELS/SPOKES			I	I	I	I	3-17 3-18
	** STEERING HEAD BEARING			I		I		3-18

* Should be serviced by an authorized Honda dealer, unless the owner has proper tools and service data and is mechanically qualified.

** In the interest of safety, we recommend these items be serviced *only* by an authorized Honda dealer.

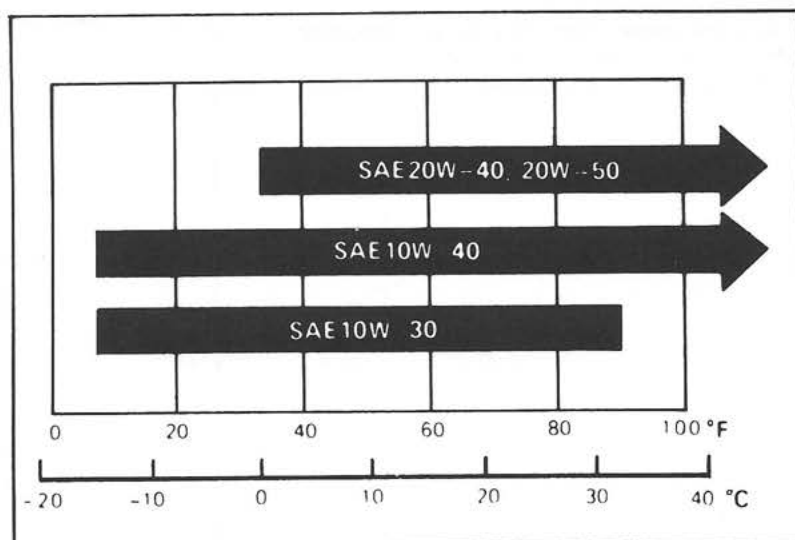
NOTES: 1. Service more frequently when riding in dusty areas.
 2. Service more frequently when riding in rain or at full throttle.
 3. California type only.
 4. For higher odometer readings, repeat at the frequency intervals established here.



IV. LUBRICATION

Use HONDA 4-STROKE oil or equivalent.
API SERVICE CLASSIFICATION: SE or SF.
VISCOSITY: SAE 10W-40.

Other viscosities shown in the chart may be used when the average temperature in your riding area is within the indicated range.



V. INSPECTION/ ADJUSTMENT

•EVAPORATIVE EMISSION CONTROL SYSTEM (CALIFORNIA ONLY)

Check the vacuum hoses for clogging, deterioration or damage and replace if necessary.

Inspect the charcoal canister for damage and replace if necessary.

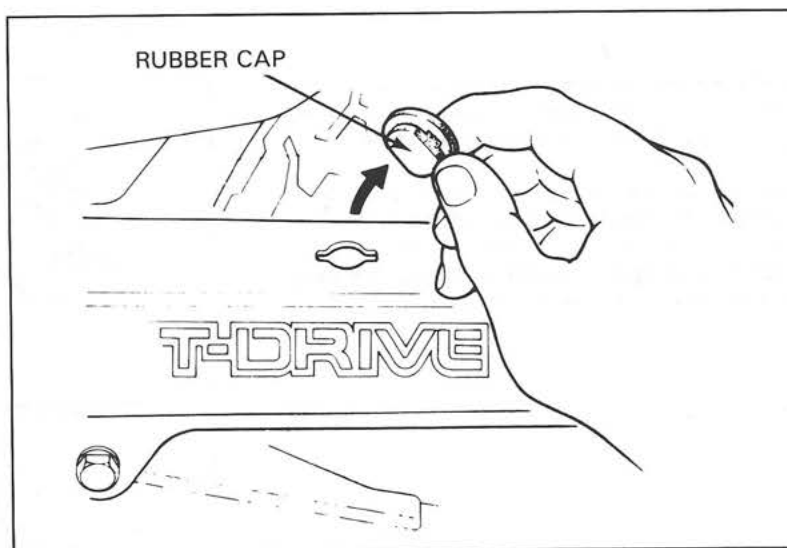
•DRIVE BELT

CAUTION:

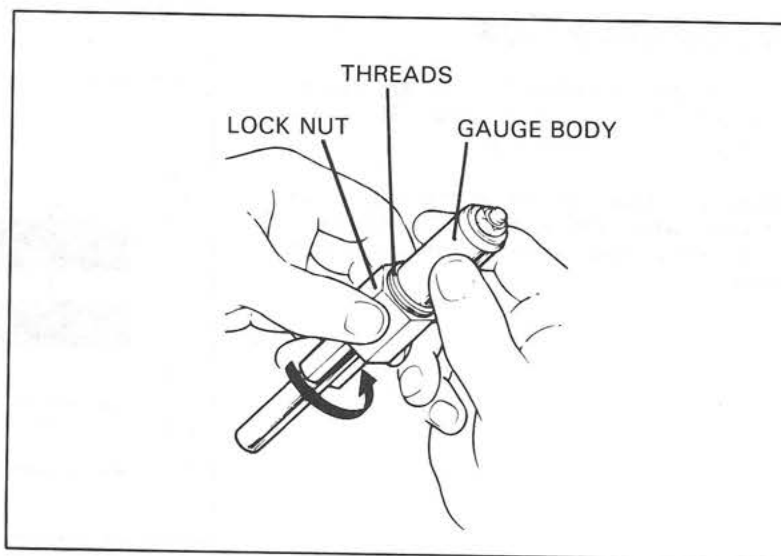
- The drive belt requires no lubrication. Lubricants and solvents can cause damage to the drive belt.
- Before performing any drive belt service, turn the engine off, shift the transmission into neutral and place the motorcycle on its centerstand.

TENSION INSPECTION (Using the tension gauge in the motorcycle tool kit)

Remove the rubber cap from the belt cover.



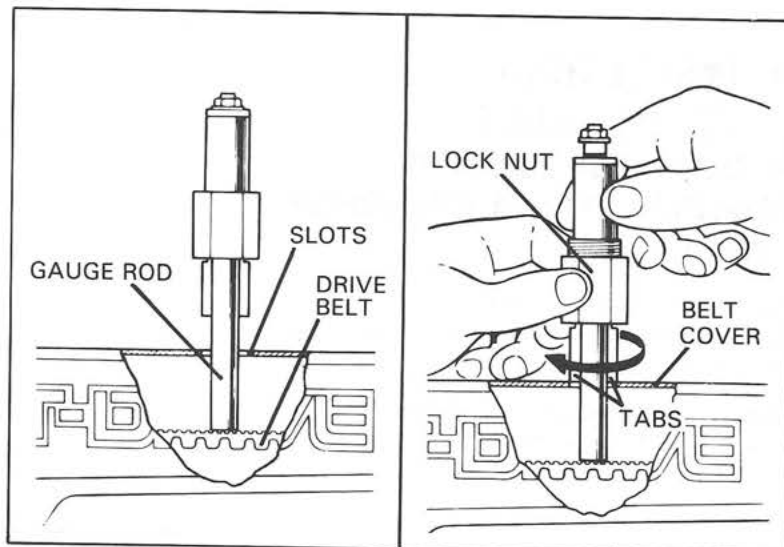
Turn the gauge lock nut in the direction shown until the threads on the gauge body are covered by the nut.



Insert the gauge into the hole in the belt cover so the gauge rod rests on the drive belt.

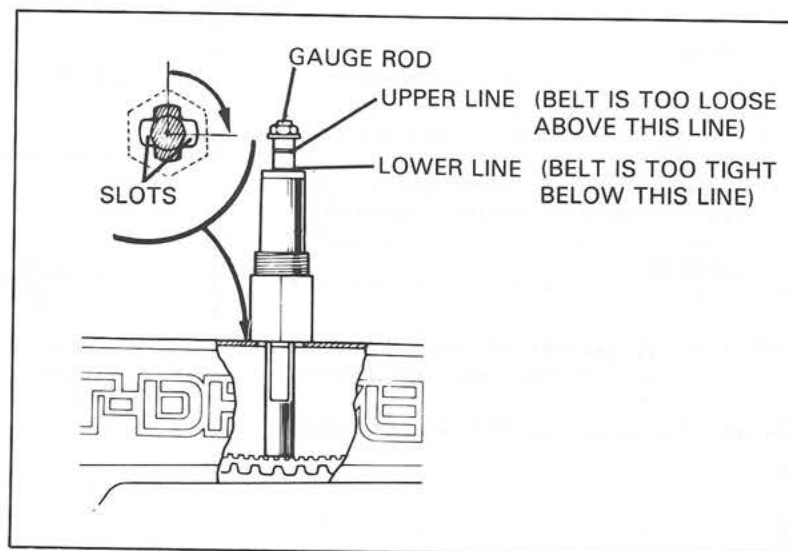
Hold the gauge with your fingers and turn the lock nut down until the lock nut tabs stop on the belt cover.

Turn the lock nut until the tabs fit into the belt cover slots, then push down on the lock nut until you can turn it 90° to lock the tool in place.



If the top edge of the gauge body now comes between the upper line and lower line on the gauge rod, the belt is properly adjusted.

Rotate the rear wheel and check drive belt tension. It should remain constant as the wheel is rotated. If the belt is slack in one section and tight in another, check the belt and pulleys for excessive wear.





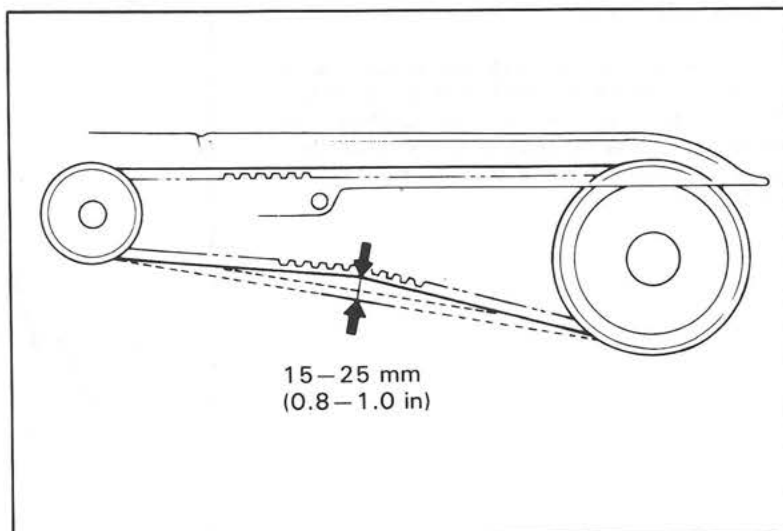
TENSION INSPECTION (Alternate method)

Drive belt tension can also be checked by hand by lightly pushing up on the lower half of the drive belt midway between the two pulleys. However, inspection with the drive belt tension gauge is recommended for a more accurate measurement.

Drive belt tension is approximately correct when the belt can be pushed up 15-25 mm (0.6-1.0 in)

CAUTION:

- Drive belt tension should be inspected when the belt is "cold."
- Excessive belt slack, 35 mm (1.4 in) or more, may cause the drive belt to come in contact with surrounding parts, resulting in shortened belt life.



ADJUSTMENT

Turn the rear wheel a few times to ensure equal tension over the entire belt.

Loosen the rear axle nut.

Loosen the lock nuts on the left and right side adjusting bolts. Turn the adjusting bolts equally until the correct belt tension is obtained.

Tighten the axle nut to the specified torque.

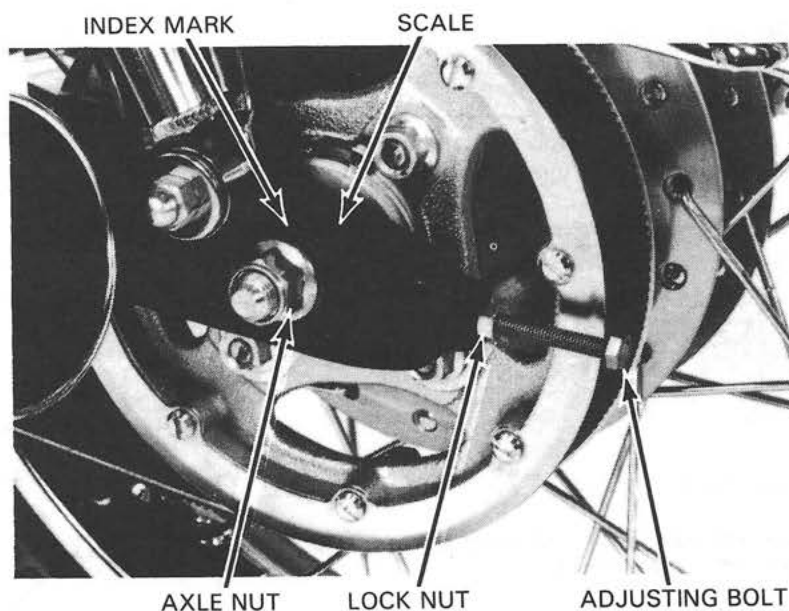
REAR AXLE NUT TORQUE: 55-65 N-m
(5.5- 6.5 kg-m, 40-47 ft-lb)

Tighten the adjuster lock nuts.

Recheck the belt tension to ensure it hasn't changed and then check the rear brake pedal free play. Adjust if necessary.

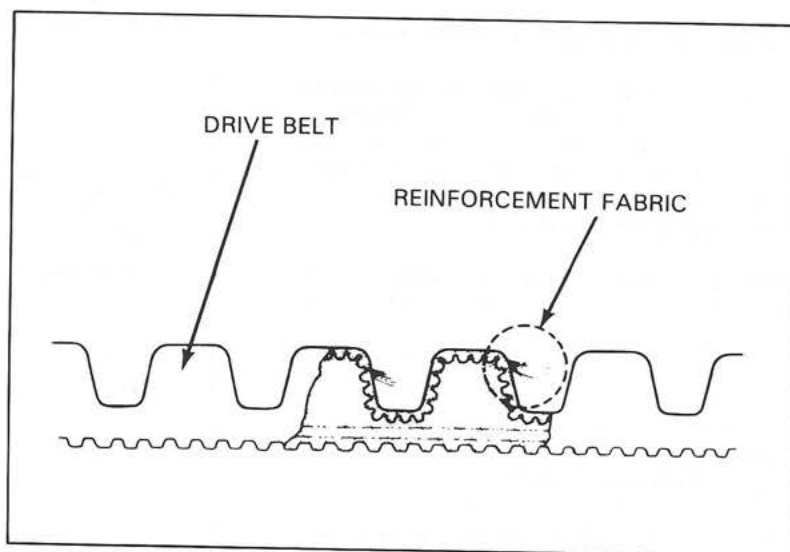
CAUTION:

- Be sure to align the belt adjuster index marks with the same scale graduations on both sides of the swingarm.
- After replacing the drive belt or installing the rear wheel, adjust the drive belt slack to 20-30 mm (3/4-1 1/4 in), then adjust to the specified tension with the tension gauge.



WEAR INSPECTION

With the engine off and the transmission in neutral, rotate the rear wheel and check the belt for wear or damage. Replace the drive belt if it is cracked or if reinforcement fabric is visible at more than twenty places on the belt.



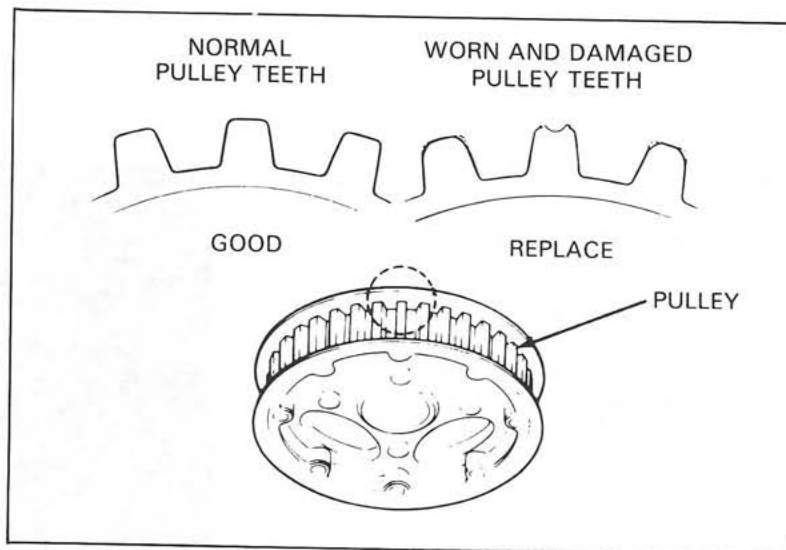
PULLEY INSPECTION

Check the drive and driven pulleys for worn or damaged teeth.

Replace if necessary.

NOTE:

When replacing a pulley, the drive pulley, driven pulley and drive belt should all be replaced as a set.

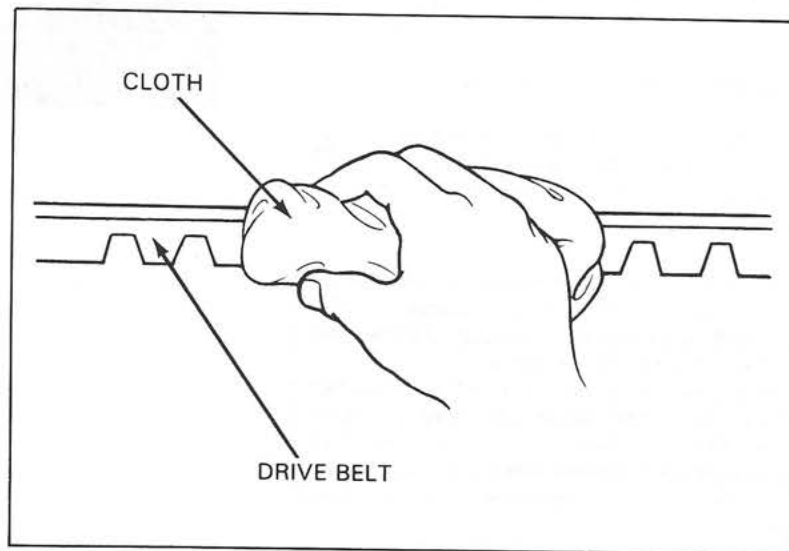


CLEANING

Clean the drive belt with water and then wipe dry with a clean cloth.

CAUTION:

Do not use a steam cleaner, kerosene or other solvents to clean the drive belt. They can damage the belt.





VI. CARBURETOR

WARNING

Gasoline is flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.

•ACCELERATOR PUMP

DISASSEMBLY

Remove the accelerator pump cover, pump rod and spring. Check the diaphragm for tears or pin holes.

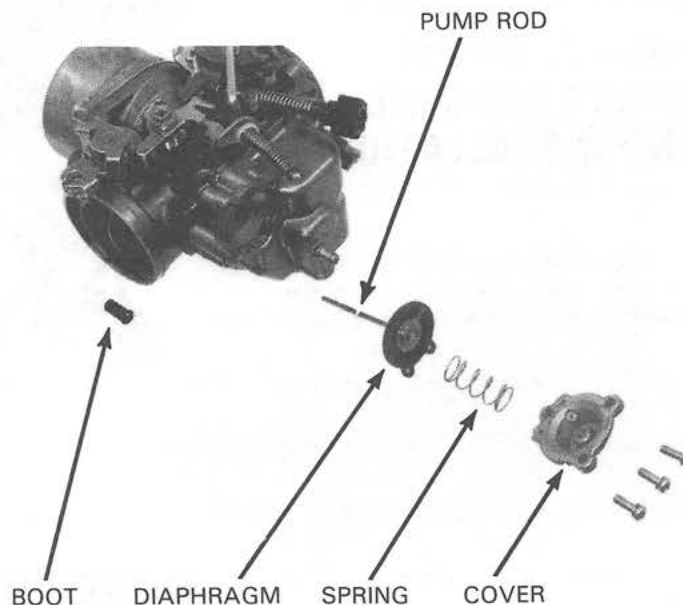
Remove the boot and check it for tears or pin holes.

ASSEMBLY

Assemble the removed parts in the reverse order of disassembly.

NOTE

Check the accelerator pump for freedom of operation.



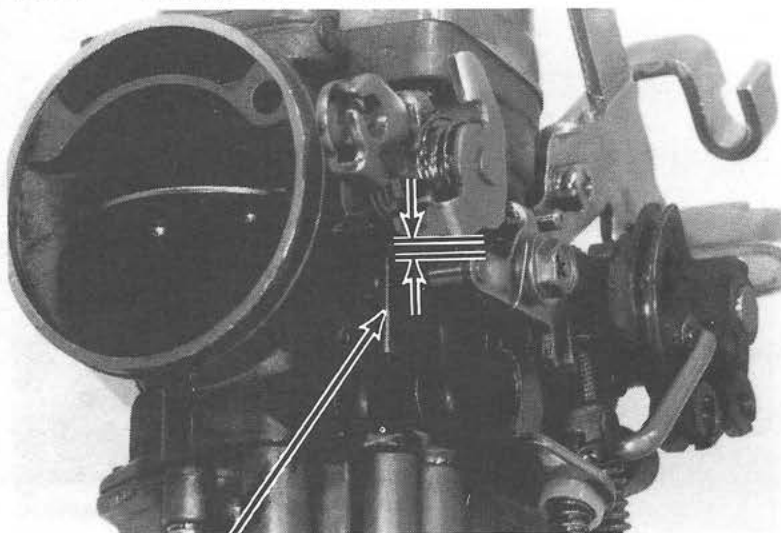
ADJUSTMENT

Loosen the throttle stop screw, so the throttle valve is closed.

Measure the clearance between the accelerator pump rod and adjusting arm with the throttle valve closed.

CLEARANCE: 0–0.04 mm (0–0.0016 in)

Adjust by bending the adjusting arm.

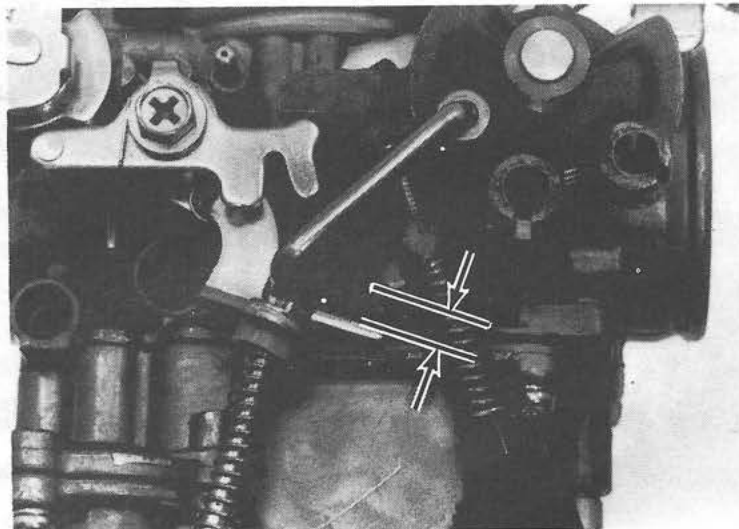


ACCELERATOR PUMP ROD

Measure the clearance between the adjusting arm and stopper on the carburetor body.

CLEARANCE: 3.1–3.3 mm (0.12–0.13 in)

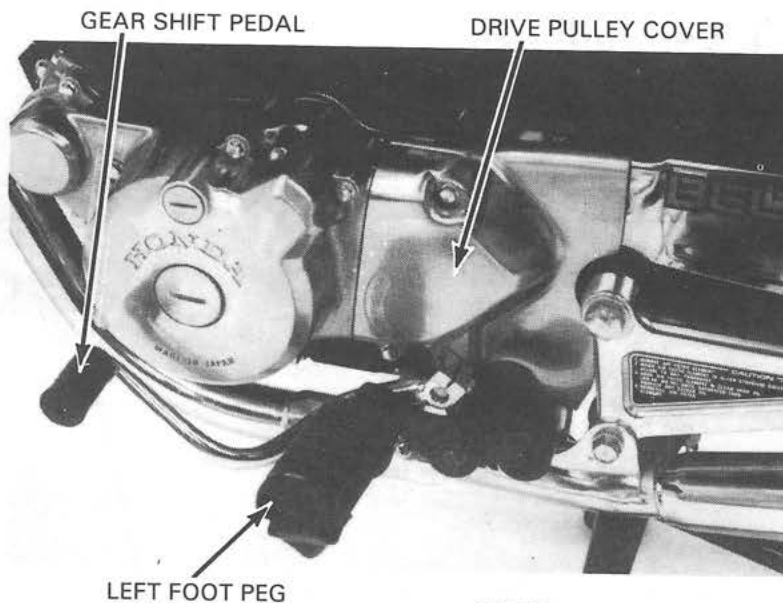
Adjust by bending the adjusting arm.



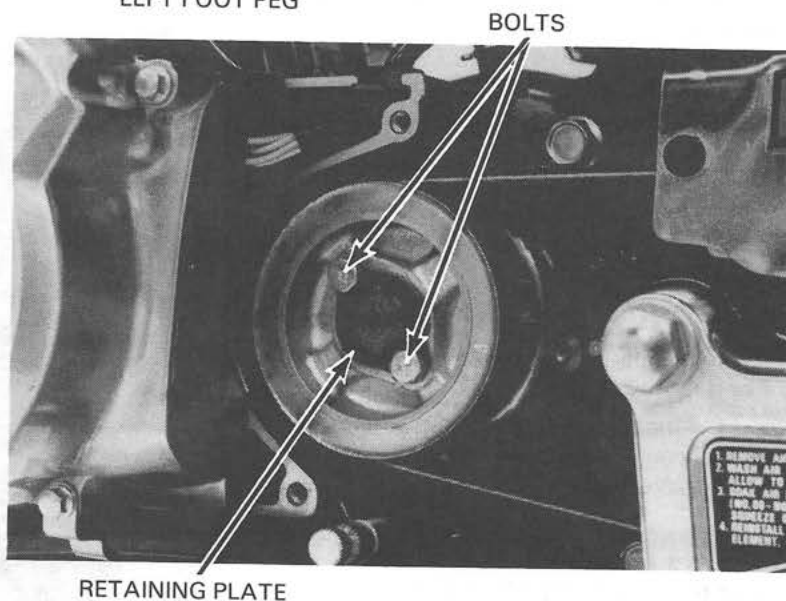
VII. DRIVE BELT/DRIVE PULLEY/ DRIVEN PULLEY REMOVAL AND INSTALLATION

REMOVAL

Turn the engine off and shift the transmission into low gear. Remove the left foot peg, gearshift pedal and drive pulley cover.

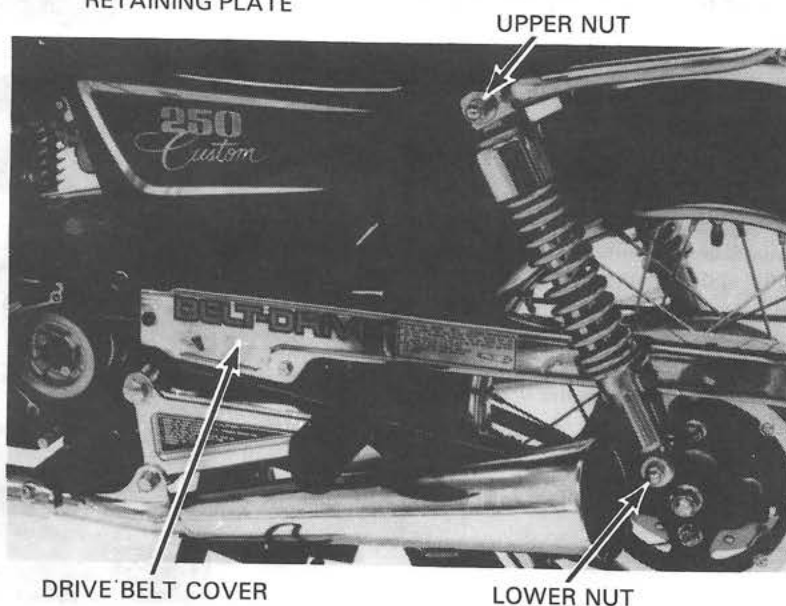


Remove the two bolts and the drive pulley retaining plate.



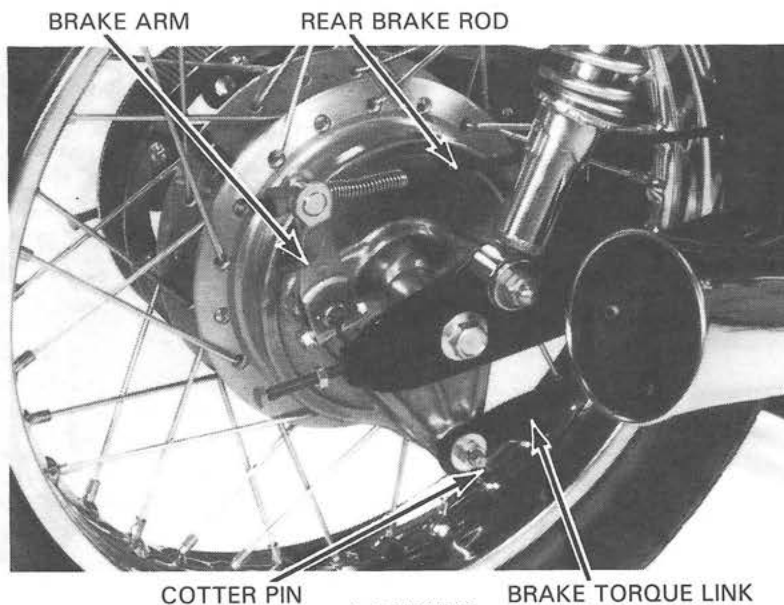
Remove the left rear shock absorber upper and lower mounting nuts and then remove the shock absorber.

Remove the drive belt cover.





Disconnect the rear brake rod from the brake arm. Remove the cotter pin and then disconnect the brake torque link.

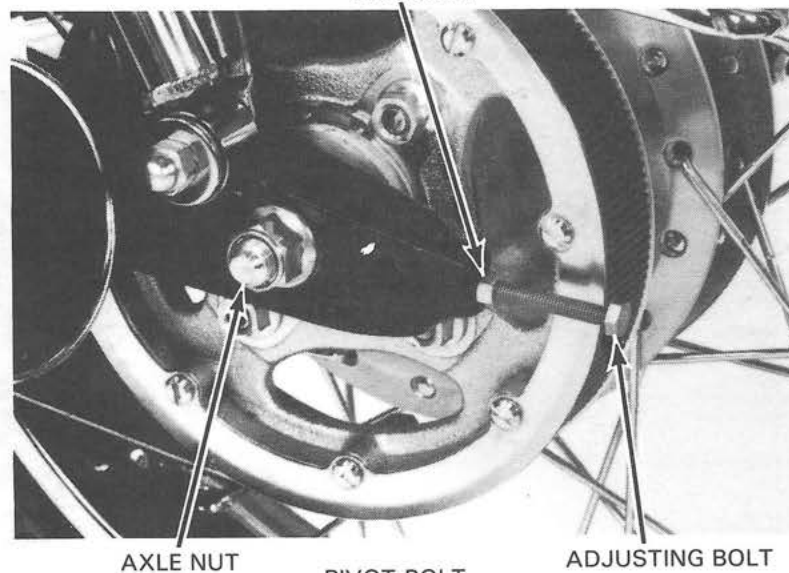


Loosen the lock nuts and adjusting bolts.

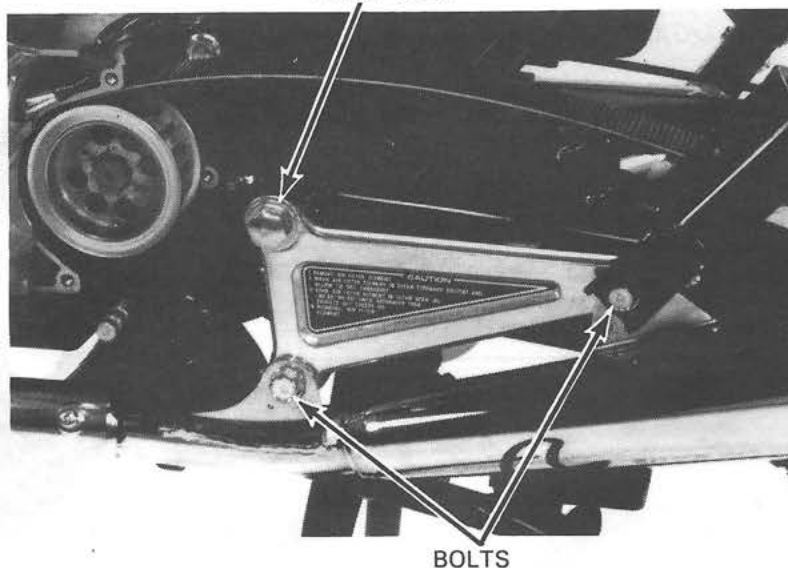
Remove the axle nut and rear axle.

Push the rear wheel forward and remove the drive belt from the driven pulley.

Remove the rear wheel.



Loosen the pivot bolt and remove the other two bolts shown.

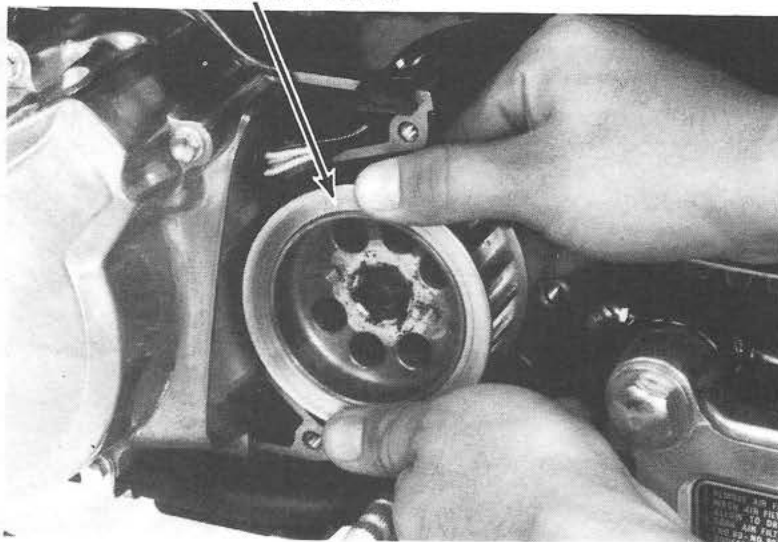


Remove the drive belt and drive pulley.

NOTE:

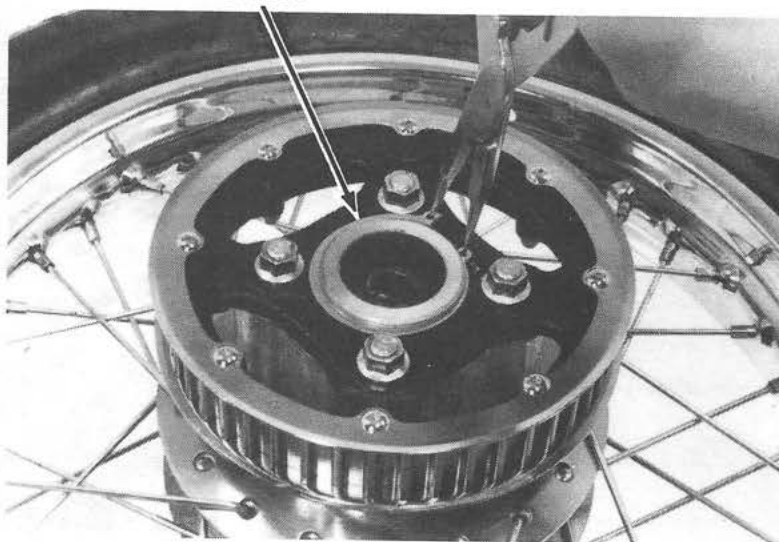
It is not necessary to remove the pulley if only the drive belt is to be replaced.

DRIVE PULLEY



Remove the circlip and then remove the driven pulley from the rear wheel.

CIRCLIP



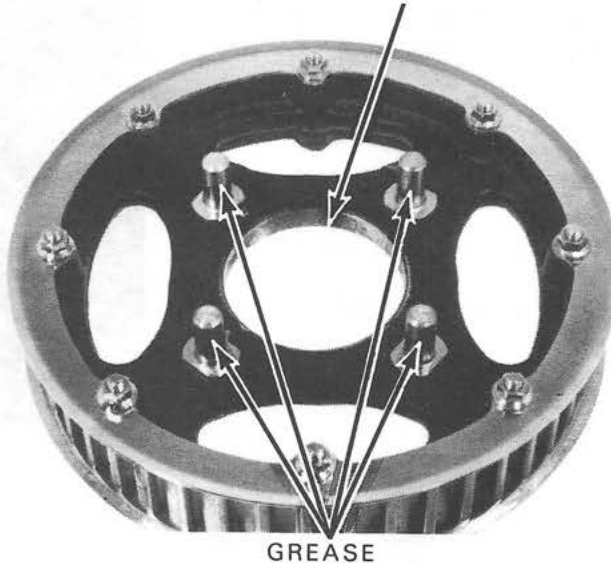
INSTALLATION

Apply a thin coat of grease to the four driven pulley hub studs and to the inside diameter of the driven pulley.

NOTE:

Use only a small amount of grease. Excessive grease will eventually coat the pulley and attract dirt and dust.

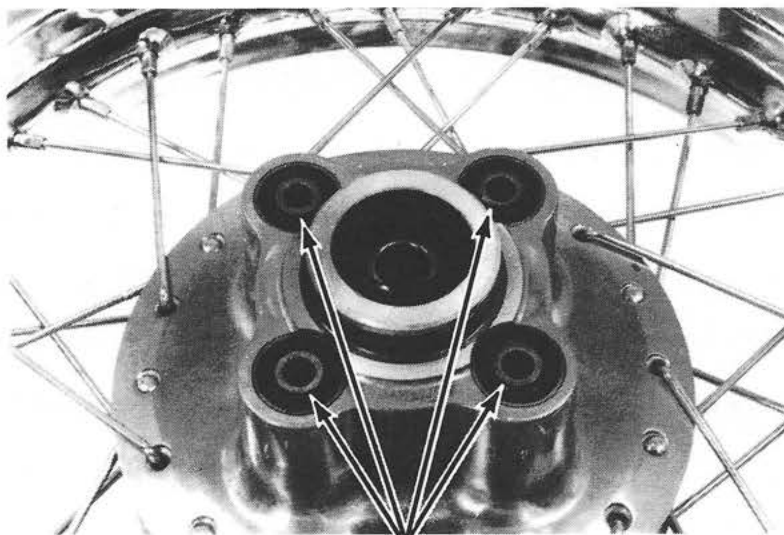
GREASE





NOTE:

Do not apply grease to the wheel hub rubber cushions.



DO NOT GREASE

Assemble the removed parts in the reverse order of disassembly.

Adjust the drive belt according to page 24-7.

TORQUE VALUES

- Swing arm Pivot bolt/nut:
50–70 N-m
(5.0–7.0 kg-m, 36–50 lb-ft)
- Rear axle nut:
55–65 N-m
(5.5–6.5 kg-m, 40–47 lb-ft)
- Rear shock absorber mounting nuts:
30–40 N-m
(3.0–4.0 kg-m, 22–29 lb-ft)

